

# RAILWAY AGE

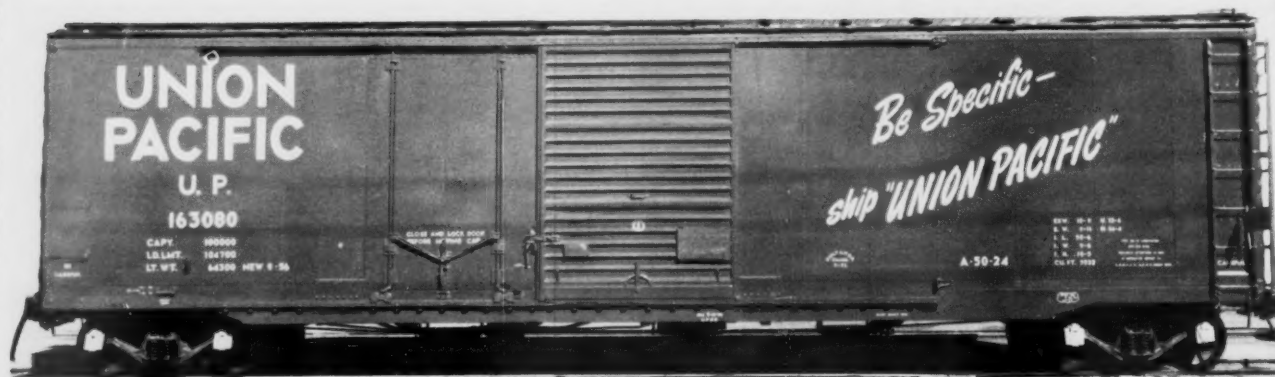
APRIL 9, 1957

THE INDUSTRY'S NEWSWEEKLY

## ***NOW!* HERE'S A TRUER ALL-PURPOSE BOX CAR**

The most progressive advance in the development of all purpose box cars has been made by Youngstown and is embodied in Union Pacific Railroad cars. This achievement has been accomplished by an ingenious combination of two

this door makes possible, the car can be converted into a single door box car capable of hauling grain without increasing the number of grain doors normally required. The number of box cars available for hauling grain during periods



types of doors each originated by Youngstown for separate and distinct applications, namely, the sliding flush door designed primarily for insulated box and refrigerator cars and lift door designed for box cars.

Box cars can now be built which will possess the advantages obtained from wide door openings, and yet by assimilating the sliding flush door into the car side, which the construction of

of intensive grain movement is therefore substantially increased.

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### **YOUNGSTOWN STEEL DOOR COMPANY**

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WITH THE NATION**

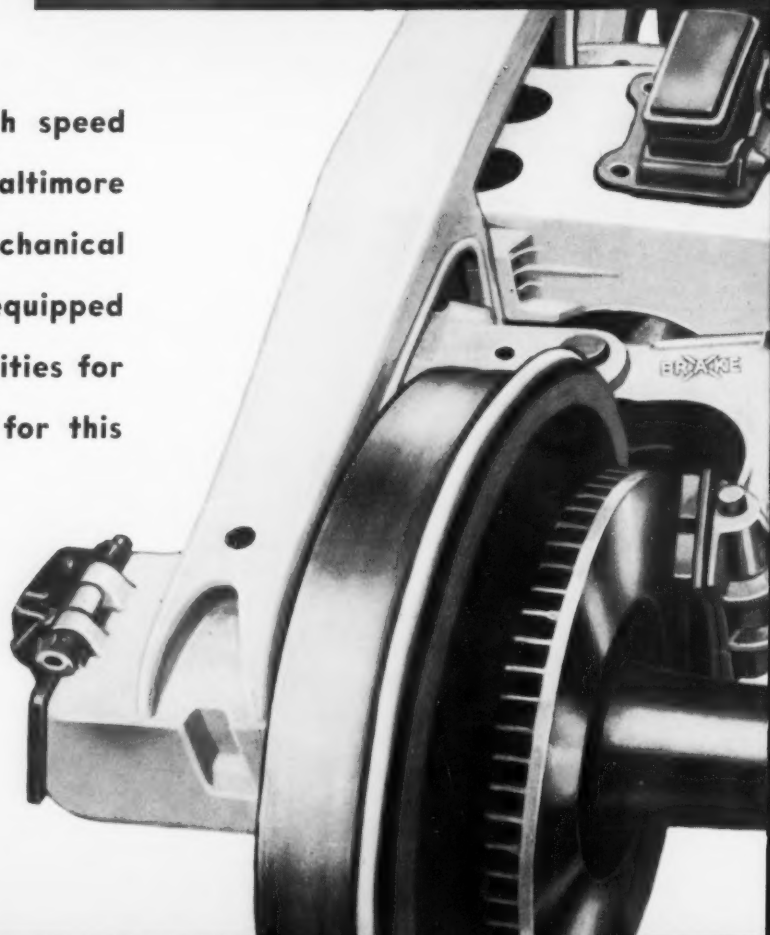


... and this is the Brake-X equipped box car assigned by the B & O to participate in the most comprehensive series of continuous road tests thus far undertaken by a selected group of U. S. and Canadian Railroads.

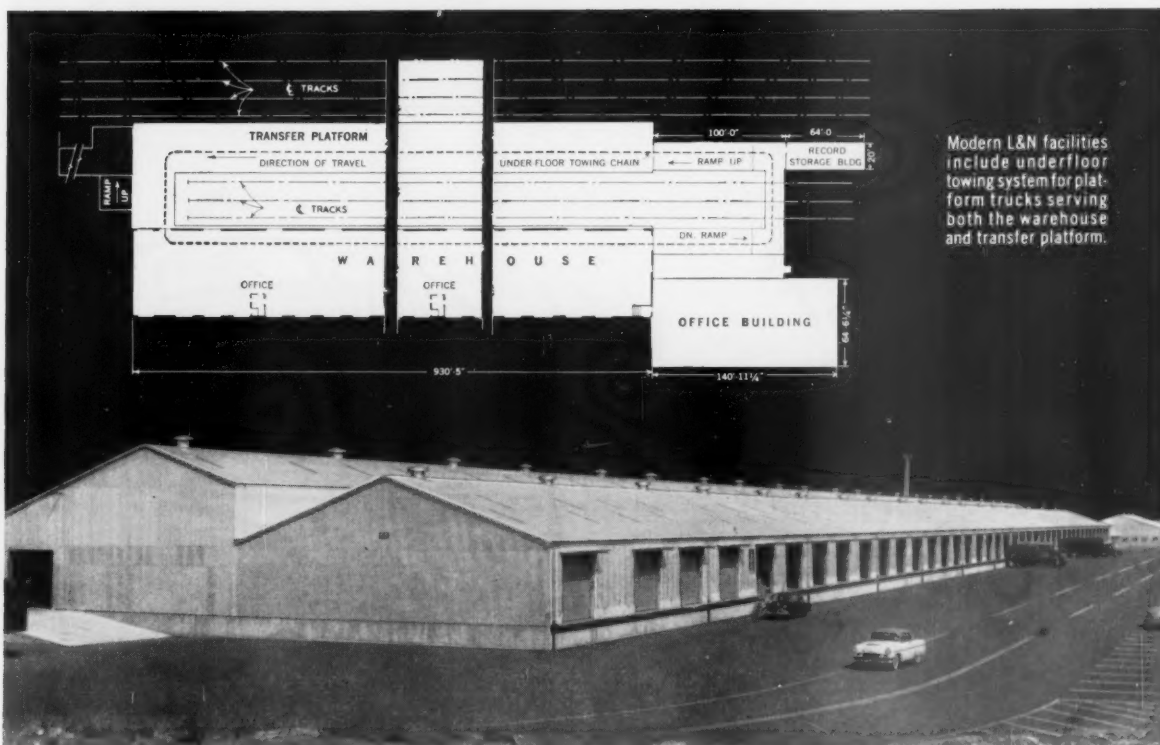


Assigned to round the clock high speed merchandise service between Baltimore and Chicago, the single-disc mechanical Brake-X with which this car is equipped is expected to explore the possibilities for even more dependable schedules for this type of service.

**BR**~~X~~**KE**



**BUFFALO BRAKE BEAM COMPANY**  
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10' Freight Cars      Passenger Cars      Diesel Locomotives



### Edgewater Steel Company

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## CONTENTS and Week at a Glance

### How to improve car utilization ..... p. 9

This "hot" subject, of paramount importance to both railroads and shippers, was the sole item on the agenda of last week's Chicago meeting of the Railway Systems and Procedures Association. First step in improving the present low rate of car utilization, said one railroad officer, should be revision of "our approach to the use of cars as warehouse items instead of as moving equipment."

### NYC piggyback won't carry the 'wheels' ..... p.10

"Revolutionary in cutting costs and increasing service," is how A. E. Perlman, NYC president, describes the railroad's TOFC plans. Key feature of the plan is side-loading of demountable trailer bodies, without cranes or other "lift" devices. Trailer bodies will be separated from their rear axles before being pushed onto loading turntables on flat cars.

### Damage-free equipment is the goal ..... p.32

A real box car and a car ride simulator are used in the laboratory of General Motors' Fisher Body division to help the division cut its loss and damage claims. With the help of the simulator, theoretical loading techniques for each year's new automobile models are tested and proved before the models are even in production.

### Getting more miles from the box car ..... p.34

A medium speed electronic data processing machine and a mathematical (Operations Research) model of the problem of car supply and distribution are used by the Southern Pacific to achieve more profitable use of its freight cars.

### Is the railroad industry 'static'? ..... p.37

"Yes," says Major General Lasher, executive director of the Army's Military Traffic Management Agency. Addressing the annual dinner of the Federation for Railway Progress, General Lasher took a sharp and critical look at railroad attitudes, salesmanship, rates and service.

**The world of science behind  
EXIDE-IRONCLAD BATTERIES**



*Being interviewed is E. A. Wagner, Product Engineer*

**"This oxide blend packs more power per ounce"**

*At the Exide Laboratories—***Reporter:** More power, Mr. Wagner? Do you mean the blend of oxides in Exide-Ironclad is different from that used in other batteries?

**Wagner:** Absolutely. We can use the more active oxides that give the batteries higher capacity.

**Reporter:** Why do you say *can*? Can't other batteries use these oxides too?

**Wagner:** It isn't likely. First, this blend is the result of more than 40 years of Exide research—and it's an Exide exclusive. Second, we can use it successfully because of the unique tubular construction of the Exide-Ironclad positive plate.

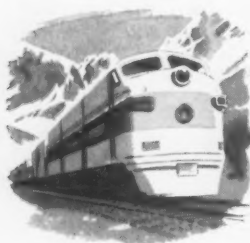
**Reporter:** How does tubular construction help make it a better battery?

**Wagner:** Because the cylindrical power tubes hold the tiny oxide particles firmly in electrical contact clear through the charge and discharge cycle. So Exide-Ironclad Batteries can maintain their high capacity—even under severe vibration—for years of service.

**Reporter:** Obviously, this is an important feature of Exide-Ironclad Batteries.

**Wagner:** Yes it is, but it's just one of many engineering details that contribute to its high capacity and long life.

**Note to battery users.** Whenever you order heavy duty batteries or the equipment that requires them, be sure to specify Exide-Ironclad. For bulletin, write Exide Industrial Division, The Electric Storage Battery Co., Phila. 2, Pa.



THE ELECTRIC STORAGE BATTERY COMPANY **Exide®**

## Current Statistics

Operating revenues, one month	
1957 .....	\$855,565,475
1956 .....	831,707,466
Operating expenses, one month	
1957 .....	\$688,578,802
1956 .....	661,569,057
Taxes, one month	
1957 .....	\$86,726,000
1956 .....	85,261,302
Net railway operating income, one month	
1957 .....	\$58,266,229
1956 .....	62,724,641
Net income estimated, one month	
1957 .....	\$44,000,000
1956 .....	47,000,000
Average price 20 railroad stocks	
April 2, 1957 .....	89.73
April 3, 1956 .....	105.89
Carloadings revenue freight	
Twelve weeks, 1957 .....	7,932,553
Twelve weeks, 1956 .....	8,255,235
Average daily freight car surplus	
Wk. ended Mar. 30, 1957 .....	7,151
Wk. ended Mar. 31, 1956 .....	3,150
Average daily freight car shortage	
Wk. ended Mar. 30, 1957 .....	1,527
Wk. ended Mar. 31, 1956 .....	5,570
Freight cars on order	
March 1, 1957 .....	111,965
March 1, 1956 .....	141,437
Freight cars delivered	
Two months, 1957 .....	15,477
Two months, 1956 .....	9,080
Average number railroad employees	
Mid-February 1957 .....	988,664
Mid-February 1956 .....	1,041,458

### ADVERTISING SALES DEPARTMENT

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ATION DIRECTOR, 30 CHURCH ST., NEW YORK 7.

## Week at a Glance CONTINUED

### 'Roger Williams' is ready to go ..... p.38

Most recent contribution in the field of lightweight passenger equipment, the train—built by Budd for the New Haven—consists of six RDC cars modified for both diesel and third-rail operation. It has been designed to make the 206-mile run between suburban Boston and suburban New York in 21½ hours.

### What is Defense's transport policy? ..... p.52

Although General Lasher, head of military traffic management, wants railroads to get a lot more equipment and expand their capacity all the way down the line, a defense official who "ranks" him has diametrically opposed views about the military's needs for railroad service. This raises the question as to just what the defense department's policy toward transportation may be.

## SHORT AND SIGNIFICANT

### Heller reports . . .

are now under consideration by members of the AAR's board of directors. The reports are those made by Robert Heller & Associates on the organization and activities of the AAR. They were submitted at the March 29 meeting of the board in Washington.

### BRT and carriers' committees . . .

were still negotiating last week in Chicago. A Presidential emergency board has recommended a 26½-cents-an hour, three-year "package" increase. "Cooling off" period ends April 14.

### The \$3.5 billion . . .

modernization program of British Railways is picking up momentum rapidly. More than one-third of the amount allotted to the 15-year program is committed to developments already in progress or authorized, says Sir Brian Robertson, chairman of the British Transport Commission. Details of the huge program were summarized in Railway Age, July 18, 1955, pp. 26-7.





*Rebuilding piston crowns by sigma welding in a matter of minutes saves approximately 70% of new piston cost.*

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## RSPA MEETING HEARS . . .

## How to Improve Car Utilization

The low rate of car utilization is the shame of the railroad industry, says George M. Leilich, vice-president—operations, of the Western Maryland.

Mr. Leilich, addressing last week's Chicago meeting of the Railway Systems and Procedures Association, said the rate of car utilization is becoming worse instead of better. Such a situation, he added, "cannot be tolerated indefinitely. A reversal of this trend must be accomplished."

**First step** in making the reversal, the WM officer stressed, should be "a revision of our approach to the use of cars as accumulation or warehouse items instead of as moving equipment." This, he pointed out, will involve not only changes in facilities and free-time practices, but also will call for agreements between railroads and shippers to encourage the use of equipment for movement without damaging the roads' competitive positions.

A second step forward would be the inclusion of car delay "as a part of our operating statistics, in order that an incentive may be created in the operating department to move the cars." Mr. Leilich said this procedure was already in effect on the WM.

Per diem arrangements also must be revised, he said, so that they are calculated on an hourly rather than calendar-day basis. Such a revision, Mr. Leilich argued, has become practicable by use of modern data-processing equipment.

**Striking out** at what he called the "science of statistifying," David E. Smucker, president of the Detroit, Toledo & Ironton, told the RSPA meeting that statistical averages showing poor car utilization present a distorted picture. "These statistical essays," he said, "generally wind up with a statement something to the effect that in its 35- or 40-year life the average freight car is actually moving loaded in a freight train only so many months, weeks and days."

The real problem for railroad management, Mr. Smucker emphasized, is car *utility*, not car utilization—and

the utility in question must be the shippers'. To the shipper, the major elements in the utility of transportation are its cost and the requirements of his customer-consignee. Specialized interior loading devices are a big help in increasing utility from the shippers' point of view, he said.

"From the economic point of view, we improve car utilization by improving the earnings of a unit of capital goods, not by trying to get more loaded miles out of the same car, or more net ton-miles per day, or improving our ratio of loaded car-miles to empty car-miles—if at the same time we have thousands of empty cars stored around the railroad because nobody wants to use them, preferring instead to use some other form of transportation which offers greater economic utility to the shipper."

**The shipper's approach** to better utilization of cars was discussed by two industrial traffic managers.

Tight scheduling is vital, said Stanley H. Tippet of the Container Corporation of America, the eastern division of which, he pointed out, has now handled 80,000 carloads without incurring demurrage charges. Essential to the scheduling, he said, are complete performance records on routings.

Container Corporation has increased its average carload from 36,000 lb to 80,000 lb through use of mechanical loading devices, Mr. Tippet said. Also, he pointed out, Container doesn't spread its transport business around—railroads giving the best service get the shipping, other roads get nothing.

He concluded by listing four ways railroads can improve car utilization: Improve local classification and switching service; use box cars with larger doorways to facilitate mechanical loading; reduce size of car studing to provide larger interior dimensions; and cut freight rates as shipper cooperation helps to reduce costs.

U. S. Steel Corporation's approach to better car utilization was described by J. L. Kerins, transportation-central operations. First, daily reports on car supplies and car needs are funneled

from each of the firm's plants through a "central planning division." This has led to "higher mobility and fluidity" of car supply, as well as lower demurrage charges. Also, U.S. Steel's program calls for "production forecasting," in which car needs for moving finished products to customers are predicted as long as one month in advance. The forecasts are sent by the central planning division to the company's traffic department for transmission to the railroads.

If freight-car turnaround time could have been cut an average of one day in 1956, said Arthur H. Gass, chairman of the AAR's Car Service Division, nearly 38 million freight-car-days would have been saved. In 1955, he also told the meeting, 22,917,000 car-days could have been saved if only 10% of the average car's empty miles



## Damage Claims Can Be Cut!

A good start for April as "Perfect Shipping Month" was featured at a recent meeting of midwest railroad claim agents and damage prevention officers sponsored by the A. E. Staley Manufacturing Company. T. C. Burwell (left), president of the National Association of Shippers Advisory Boards and traffic vice-president for Staley, tells C. A. Naffziger, director of the freight loss and damage section, AAR, that his firm's damage claims are only 63¢ per \$100 of revenue, compared with a national average of \$1.10.

had been eliminated. Value of such a 10% reduction was estimated by Mr. Gass to be \$66 million.

He also estimated that in 1956 nearly 8,000,000 cars were held over 48 hours before unloading, "with the result that many cars were used for warehouses." The situation, he said, demands "more prompt loading and unloading of freight cars by shippers and receivers, and faster handling by railroads."

A case for better repair track procedures was presented by W. H. Mims, superintendent of motive power and equipment of the Central of Georgia.

"Eight hours is the maximum time that any freight car should be allowed to remain on a repair track for routine repairs," Mr. Mims said. His own railroad has been able to save 225 car-days on every 150 cars had ordered for light repairs by observing

the eight-hour maximum limitation.

Reorganization of the CofG's light repair facilities and procedures has stressed that repair track should be reasonably close to the transportation yards themselves, "yet it should not be merely set down in the middle of the yard to accommodate switching service at the expense of adequate working space and proper repair track arrangement."

"By providing everything that is normally needed at one central track location, we can bring the production line to our freight car repair tracks."

Around-the-clock, seven day week operation should be maintained. Work assignments should be made "so that men working in the yard as car inspectors are utilized for manning repair tracks on those shifts when fewer yard inspections are required, otherwise leaving track time available."

Mr. Mims estimated that American railroads can save about \$40 million a year in lost car days and per diem charges through inaugurating a general program of repair-track-procedure improvements.

**RSPA officers** elected for 1957-58 were: President—T. F. Schaeckel, manager of freight train service for the Pennsylvania; first vice-president—J. V. Wolfe, auditor of freight accounts for the Burlington; second vice-president—L. S. Provo, vice-president and comptroller of the North Western; secretary-treasurer—A. C. Weamer, assistant auditor of revenues for the New York Central.

[A report to the meeting on how the Southern Pacific meets shippers' needs for proper grade box cars while simultaneously minimizing total expenses of ownership, rental, upgrading, and empty car mileage, appears on pp. 34-36 of this issue.]

## NY Central Won't Carry 'the Wheels'

Piggyback plan, dubbed 'Flexi-Van,' is unveiled—Side-loading via rotating device on car, is key feature—Fruehauf may build special flat cars

Drawing back the veil that has cloaked months of research and planning, the New York Central last week revealed the shape of its proposed piggyback operation.

Tied to the argument that asks "Why carry the wheels?" it's a TOFC system using side-loading of demountable trailer bodies—without cranes or other "lift" devices. Loading is done by means of a turntable that works something like a gas station grease rack.

First definite news that the Central was going into piggyback was reported in *Railway Age*, Jan. 21, p. 44, in a story reporting that the service was "expected to be something completely new in the field."

At last week's press demonstration of prototype "Flexi-Van" equipment, NYC President A. E. Perlman predicted the innovation will prove "revolutionary in cutting costs and increasing service." He commented that this and other recent developments on the Central have been "exciting," whereas "up to now I haven't been very happy about going to a shipper and selling him New York Central service."

He emphasized that no common carrier operations are planned and that he was convinced piggyback could be profitable for his road only

if "circus loading" TOFC methods were eliminated. "Better service potential" sums up his explanation of why the road is going into piggyback.

Major General E. C. R. Lasher, military transport chief, who attended the demonstration, said the Central's TOFC scheme "surpasses any I have so far seen" in eight years as an interested observer. He commented that while Mr. Perlman had "counted 10" before making up his mind on how to use the piggyback idea, "I believe it was a worthwhile hesitation."

A big role in the Central's plans has been played by Roy Fruehauf, president of the Fruehauf Trailer Company, and by the engineering staff of Strick Trailers, a Fruehauf subsidiary.

Mr. Fruehauf said "we are partners with the Central in this venture." He told reporters that his company is designing—and hopes to build for the Central—special, lightweight flat cars incorporating the turntable lift-and-load device.

The displayed prototype of this device was installed on a standard flat car. Other such units are being prepared for tests on the Central. Cost of modifying a car for Flexi-Van equipment was put at about \$2,500, but it is anticipated that the Central will use cars built specifically for the

operation—at an undetermined price.

Mr. Perlman, estimating that the NYC service might be started within six months, seemed confident that other roads will adopt his road's plan—thus permitting interchange.

J. F. Nash, NYC operating vice-president, said the service will be extended throughout the Central system—including its lines in New England, and on the Pittsburgh & Lake Erie.

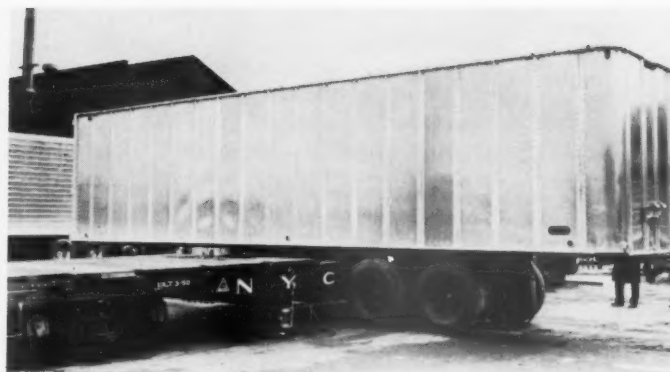
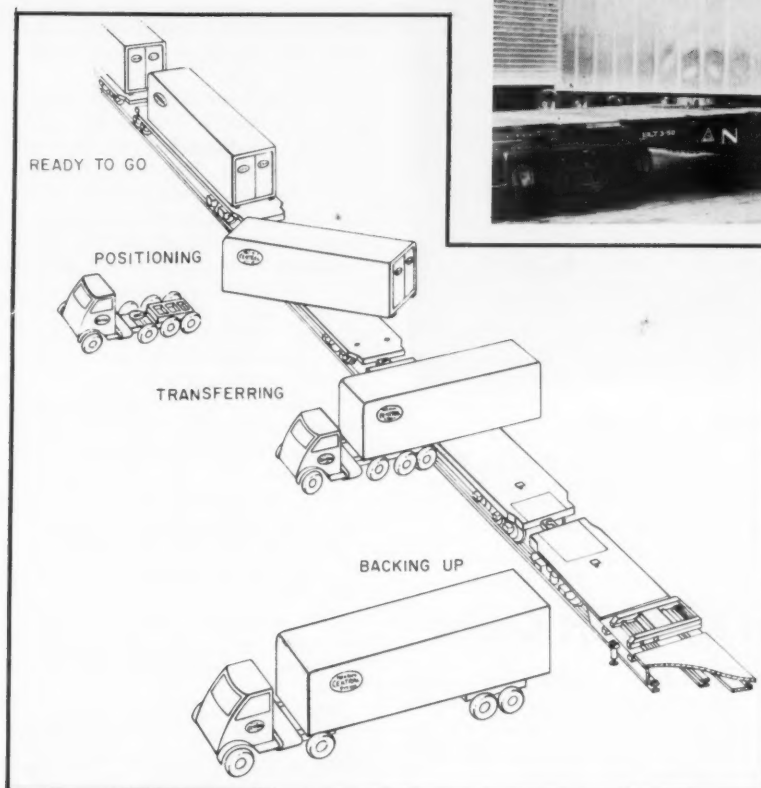
A. E. Baylis, vice-president, freight sales and service, explained that the road's plans are tied to its newly organized trucking subsidiary—New York Central Transport Company—which has substitute service rights in 90% of the road's territory. He said the truck company will issue truck tariffs for highway transport and use the railroad as its agent for over-rail movement in piggyback. Conversely, the railroad will issue rail TOFC tariffs and use the truck subsidiary as its agent for highway moves.

Leo Mellam, president of Central Transport, holds the patent on a device which separates the trailer body from its rear axle before it is pushed onto the loading turntable on the flat car. The process is an adaptation of a technique used for years by truckers to adjust axle positions under their trailers to meet the varying axle-load distribution rules of different states.

Central officers are convinced their system is an improvement on end-loading TOFC methods primarily because it greatly reduces terminal costs (including wages, because the truck



**Central's TOFC Innovation  
'Leaves the Wheels Behind'—  
Shrinks Terminal Overhead**



▲ Latched aboard, van is ready for manual swing into riding position. Hydraulic jack at turntable center lifts trailer and provides pivot for rotation. Automatic locks supplant extra tie-down gear and permit humping. Bogie, freed to get another load, is towed off by trucker.

◀ Diagram shows how demountable trailer is pushed off tandem wheel bogie onto flat car. Dual runners on turntable engage underframe runners on trailer which then slides across car until centered.

driver can perform the entire load transfer by himself). Speed of loading—four minutes per trailer—is also important, they hold.

Further, they say it is fundamentally cheaper not to haul the wheels. This reduces dead weight, lowers the center of gravity for added safety and ends overhead clearance problems.

Additionally, the wheels, or bogie, are freed to move other vans. Fruehauf spokesmen said the road will need just one bogie for three trailers, thus reducing capital cost and licensing and insurance expense.

Switching is unnecessary, too, as whole piggyback trains could conceivably be loaded or unloaded simultaneously. It should also simplify operations, the road maintains, because no special unloading apparatus is needed and any hamlet can be a TOFC stop.

It's seen possible, too, that smaller vans than the 35-ft trailer demonstrated could be used. This would permit double-loading of flat cars equipped with twin-turntables. It might overcome one side-load ob-

stacle envisioned by some—lack of maneuvering space between tracks in yards. Mr. Mellam doubts this will bother the Central much, though, because considerable suburban unloading of TOFC trains is planned.

It's also likely that some trailers will be built with side openings to make it possible to unload on industrial sidings without even removing the van from the flat car, although no details are immediately available.

### ROCK ISLAND MOVING INTO COMMON CARRIER TOFC SOON

The Rock Island seems on the verge of entering common carrier piggyback operations.

Addressing the New York Society of Security Analysts March 29, RI President Downing B. Jenks revealed plans by the road to strip the superstructures off old box cars to convert them to TOFC service. The conversion costs \$2,000 per car, he said. The road now has 10 flat cars suitable for piggyback in addition to 50 Convert-A-Frate "Adapto" units—but has not offered standard piggyback service to date.

However, tying Mr. Jenks' remarks to comment by a Rock Island spokes-

man that the traffic department is "exploring" full scale common carrier TOFC, likelihood that the service will be introduced soon is strong.

Mr. Jenks told the analysts that "I think this integrated service has tremendous possibilities."

He added that he had just learned of a new lightweight aluminum trailer and container unit suitable for piggyback-type service, noting that it is much easier to move containers than whole trailer bodies.

He reported that new lift-devices will be available soon to brighten this picture further.



### New Diesel-Hydraulic Unit Unveiled in Canada

This new 600-hp diesel-hydraulic switcher, recently displayed at the General Motors Motorama in Toronto, is an experimental prototype, engi-

neered and built by General Motors Diesel Ltd., of London, Ont. Powered by two GM 6-110 engines, the unit has a reinforced hood structure.

## O&W Is Closed Down by Court Order

Last gasp efforts at artificial respiration failing, the "Old Woman" was put to rest—by court order—on March 29.

The New York, Ontario & Western, struggling in what hindsight reveals was hopeless bankruptcy since 1937, was closed down on the order of Federal Judge S. J. Ryan. Receivers appointed by the court had advised him the road could run no longer. Out of traffic, out of favor and out of luck for years, the railroad was now also out of cash.

"We can't operate on promises," the judge was quoted. "We can't operate [just] because we want to. We don't have the money or the time."

Receivers had taken over the road's operation late in January in a last

effort to keep it going. They raised a reported \$227,000 (of a \$250,000 goal) by public subscription, won extensions from the court and got futile political support.

As of March 30, the Interstate Commerce Commission authorized the Lackawanna, Erie and New York Central to use various O&W track and terminal facilities as follows:

Lackawanna: terminals and main line track at Scranton, Pa., Norwich, N. Y., Utica and New Hartford; Erie: terminals and trackage at Middletown, N. Y. and Port Jervis, and the Riverside Mine Branch at Winton, Pa.; NYC: trackage and terminals at Rome, N. Y., Oneida, Kingston, Cornwall, Firthcliffe, Arrowhead, Fulton and Oswego.

## B&M-New Haven Merger Is Opposed

End-to-end merger of the New Haven or the Boston & Maine with trunk line carriers would be beneficial, says a New England transport committee, although it would be unwise for the two roads to merge with each other.

These findings are in a report just submitted to the New England Governors' Conference by its Committee on Public Transportation.

Another phase of the report dealt

with the effect of passenger operations on the overall financial health of New England carriers. The committee recommended that "if revenues cannot be made to cover avoidable costs on any particular commutation service and the public regards that service essential to its well-being, the only feasible alternative is for the community to aid the carrier . . . in some tangible way."

The committee also commends

railroads for their efforts to "prune away the deadwood" and to "cultivate the more promising passenger fields." But it warned that extreme policies aimed at abandonment of service should not be condoned. "Elimination of passenger service is not a satisfactory long-run solution of the problem from the standpoint of the public," the report said.

The report noted that considerable study of a B&M-NH union was made. Because combination of the two would "destroy important competition," however, it was decided the region would benefit more from continued independence of the two roads.

It notes in passing that "while there be economies in operation" through merger, "some of them could probably be achieved by closer cooperation. Consolidation would mean a combining of similar weaknesses."

Trunk-line mergers are something else as viewed by the committee. Making clear that its purpose is to promote the welfare of New England, it rules out otherwise attractive mergers by the B&M with the Lackawanna and by the NH with the Erie because their eastern terminals are at New York City.

The committee also contemplated favorably B&M consolidation with the Delaware & Hudson or the Nickel Plate.

The committee further recommended that state and federal regulatory agencies cooperate with railroads to abandon hopeless passenger operations. Also, the committee would have federal transport taxes repealed and would require the Post Office Department to pay "compensatory rates" on parcel post.

## Diesel Holds Big Fuel-Cost Advantage

Diesel freight locomotives last year produced about 71% more gross ton-miles per dollar of fuel expense than coal-burning steam locomotives. That was better than their 1955 advantage of about 66%.

The comparison was made by the ICC's Bureau of Transport Economics and Statistics in its "Transport Economics."

It also showed that 1956's diesel-fuel dollar produced about 72% more gross ton-miles than each dollar spent for current for electric locomotives. A 1956 dollar spent for fuel oil for oil-burning steam locomotives produced but little more than one-third as many gross ton-miles as the diesel-fuel dollar.

The 1956 figures for diesels showed (Continued on page 14)

# MARKET OUTLOOK THIS WEEK

## Carloadings Rise 1.3% in Week

Loadings of revenue freight in the week ended March 30 totaled 694,922 cars, the Association of American Railroads announced on April 4. This was an increase of 9,089 cars, or 1.3%, compared with the previous week; a decrease of 30,046 cars, or 4.1%, compared with the corresponding week last year; and an increase of 40,161 cars, or 6.1%, compared with the equivalent 1955 week.

Loadings of revenue freight for the week ended March 23 totaled 685,833 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS			
For the week ended Saturday, March 23			
District	1957	1956	1955
Eastern .....	116,903	114,190	116,471
Alleghany .....	138,738	139,410	127,628
Pocahontas .....	64,444	59,523	53,468
Southern .....	128,878	133,484	102,489
Northwestern .....	74,026	74,834	70,874
Central .....	111,455	119,530	109,948
Southwestern .....	51,389	57,277	53,650
Total Western Districts .....	236,870	251,641	234,472
Total All Roads .....	685,833	697,248	634,628
Commodities:			
Grain and grain products .....	49,975	50,008	40,106
Livestock .....	5,578	7,060	7,001
Coal .....	140,089	133,155	106,937
Coke .....	13,172	13,349	10,969
Forest Products .....	41,094	46,591	40,330
Ore .....	23,277	21,599	16,372
Merchandise I.C.I. .....	57,262	60,232	61,148
Miscellaneous .....	355,386	365,254	351,765
March 23 .....	685,833	697,248	634,628
March 16 .....	689,226	685,983	650,924
March 9 .....	672,386	697,601	662,283
March 2 .....	703,984	710,976	653,575
February 23 .....	626,636	687,018	631,072
Cumulative total, 12 weeks .....	7,932,553	8,255,235	7,661,949

**IN CANADA.**—Carloadings for the seven-day period ended March 21, totaled 74,461 cars, compared with 74,280 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
March 21, 1957	74,461	36,150
March 21, 1956	74,796	35,726
Cumulative Totals:		
March 21, 1957	816,725	376,598
March 21, 1956	866,289	400,548

## New Equipment

### LOCOMOTIVES

► *General Electric.*—Received order for four 660-hp diesel switchers from Companhia Siderurgica Nacional, Volta, Brazil; delivery is scheduled for late this year.

### SPECIAL

► *Brazilian RR to Buy Equipment Here.*—Credit of \$12.8 million has been extended by Export-Import Bank to Cia. Paulista de Estradas de Ferro for purchase in this country of 38 diesel locomotives, 28,000 tons of heavy rail, materials for electrification, and CTC signaling equipment; Paulista is Brazil's principal privately owned and operated railroad; new diesels will end Paulista's use of wood-burning steam locomotives, except on branch lines.

## New Facilities

► *Central of Georgia.*—Will lay 40 track-miles of 115-lb rail in main lines and 13 miles of relay rail in secondary lines, with most work scheduled for Savannah and Albany districts; cost, \$1,911,000.

► *Illinois Central.*—Will spend about \$250,000 to enlarge its Hospital Department facilities in Chicago.

► *North Western.*—Is spending \$4,985,665 to construct new car-shop facilities at Clinton, Ia.—contractor, Ellington-Miller, Chicago; remodeling office building in Ravenswood area of Chicago at cost of \$314,500—contractors, G. A. Johnson & Son and L. C. Kohlman, Inc., both of Chicago; extending tracks at Clinton west yard (\$135,675), and at Council Bluffs, Ia. (\$34,870); constructing automatic interlocker at Willow, Wis. (\$42,347)—all jobs by company forces.

► *Western Pacific.*—Will replace total of 26 miles of rail in California and Nevada at cost (including ballast work and turnouts), of \$1,261,000—company forces to complete project by September; will remodel station and office building at Elko, Nev.—work scheduled for July-November, to be contracted for at cost of \$125,000; will replace timber lining in tunnel at Fremont, Cal., with concrete, estimated cost \$382,000—company forces will complete by December; will replace timber with concrete in tunnel at Palisade, Nev., Utah Construction Co.—cost will be \$456,000, with completion set for December; is replacing timber with concrete in tunnel at Rich Bar, Calif., Utah Construction Co.—completion expected immediately at cost of \$230,000.



(Continued from page 12)

they produced 5,299 gross ton-miles per dollar of fuel expense, compared with 3,087 for coal-burning steam locomotives, 2,959 for electrics, and 1,957 for oil burners. All of these were lower than in 1955.

Meanwhile, unit costs of all fuels increased. The per-gallon cost of diesel fuel was up 3.87%, the per-barrel cost of fuel oil, 13%, the per-ton cost of coal, 7.33%, and the

per-kilowatt-hour cost of electric current, 0.36%.

The bureau's figures also showed that diesels last year accounted for 89.14% of the gross ton-miles of freight service performed by Class I railroads, compared with 85.51% in 1955. The coal-burners' share was down from 10.72% to 7.99%, and oil burners and electrics each accounted for under 2% of the freight service in each of the years.

## 2nd Qtr. Loadings to turn Downtrend

Loading of revenue freight in the second quarter of 1957 will be approximately the same as in the like 1956 period, according to estimates of the 13 regional Shippers Advisory Boards.

On the basis of those estimates, loadings of the 32 principal commodities will be 7,789,641 cars, compared with 7,758,785 cars in the second quarter of 1956, or an increase of four-tenths of one per cent.

Nine of the 13 boards estimated an increase in the second quarter this year above one year ago, while four estimated reductions.

The tabulation shows actual loadings for each district in the second quarter of 1956, estimated carloadings for the second quarter of 1957, and the percentage of change.

By commodities, the boards expect an increase in loadings of 19 and a decrease in 13.

Shippers Advisory Boards	Actual Loadings Second Quarter, 1956	Estimated Loadings Second Quarter, 1957	Per Cent Increase
New England	122,278	121,181	0.9 dec.
Atlantic States	790,319	818,283	3.5
Allegheny	912,302	921,219	1.0
Ohio Valley	1,054,766	1,072,341	1.7
Southeast	964,579	964,740	0.02
Great Lakes	606,594	613,488	1.1
Central Western	214,775	224,720	4.6
Mid-West	871,811	875,122	0.4
Northwest	651,382	622,405	4.4 dec.
Trans-Missouri-Kansas	357,901	361,549	1.0
Southwest	516,433	513,342	0.6 dec.
Pacific Coast	429,228	413,115	3.8 dec.
Pacific Northwest	266,412	268,136	0.6
TOTAL	7,758,785	7,789,641	0.4

## AAR Still Opposes Repeal of Section 22

The board of directors of the Association of American Railroads recently reaffirmed its opposition to repeal of those provisions of the Interstate Commerce Act's Section 22 which authorize carriers to give special rates to government agencies.

The association's position on the matter has been set out in a memorandum by W. J. Kelly, vice-president in charge of the Traffic Department.

Indicating how opposition to repeal of Section 22 is consistent with the railroad industry's support of the "shall-nots" rate-freedom program, Mr. Kelly has this to say:

"Only in the making of rates on government traffic under Section 22 . . . do railroads enjoy the same rights, privileges and exemptions as their competitors. Repeal of Section 22 would deprive railroads of their one area of competitive equality in rate making. Railroads would then be subject to the same disadvantages in competing for govern-

ment traffic as they are now subject to in their competitive rate making for commercial traffic."

Mr. Kelly denied that repeal of Section 22 would relieve commercial shippers of any rate burden. He said: "To the extent that railroads, under Section 22, obtain at compensatory rates government traffic that their competitive rate-making disadvantages would lose for them, the burden of shippers by rail is not increased but, on the contrary, is lessened by the contribution from this traffic."

The railroads prefer to use Section 22 in many cases, rather than publish tariffs on government traffic, because Section 22 quotations are not subject to Sections 3 and 4 Mr. Kelly said. He explained that such quotations are thus not subject to suspension, they may be made effective on less than statutory notice, and applied retroactively. Moreover, the long-and-short-haul clause does not apply.

"It is only by this means that railroads can undertake promptly to meet competition, particularly where exempt, private, contract and common motor carriers are involved," the AAR vice-president added. He also said that the "flexibility" of Section 22 is "important, since it operates to permit reductions to become available immediately and to obviate the necessity of formal proceedings before the commission, which often are time consuming and expensive to both shippers and carriers."

Mr. Kelly's memorandum closed with a prediction that, if Section 22 is modified or repealed, "a large amount of traffic would shift from the rails to our competitors operating on highways and waterways constructed and maintained at the taxpayers' expense." He suggested that "surely, this is not in the public interest nor would it meet the needs of national defense."

## 2-Months Car Installations Were at Five-Year Peak

Class I railroads and their car-line affiliates put 15,219 new freight cars into service during this year's first



## Farewell to Steam

The Central Vermont has been completely dieselized. Final run of a steam-powered train in Vermont, on March 29, was that of the northbound "Montrealer," which operates from Washington and New York through Vermont to Montreal. Conductor W. Edgar Muldoon (left), checks his watch with Engineman Max Bryce at St. Albans on the last trip of steam locomotive No. 6208.

two months—more than in any other two-month period since the latter part of 1951. Also, the February orders for new cars made it the second best month in that respect since close of the rapid amortization program.

These figures were reported by Chairman A. H. Gass of the Car Service Division, Association of American Railroads, in his latest review of "The National Transportation Situation."

He also reported that Class I roads increased their freight-car ownership by 4,032 cars in February, when only 3,217 cars were retired while 7,249 were installed. The March 1 ownership was 1,715,874 cars. The serviceable ownership was 1,644,133 cars, up 3,143 from February 1 and the greatest since June 1954.

Detention reports for February indicated that 20.05% of cars placed in that month were detained beyond the free time, compared with 22.24% for the previous month and 19.77% for February 1956.

Performance data showed that freight cars produced an average of 979 net ton-miles per serviceable car per day in December, latest month for which figures were available. That was below November's 1,030, but above December 1955's 968. The figure for the year 1956 was 1,023, compared with 1955's 1,000.

### Ex Parte 206 Schedule Lengthened

The Interstate Commerce Commission has set back, from April 17 to May 6, the San Francisco hearing in the Ex Parte 206 freight-rate case. The hearing will be held at the Sir Francis Drake Hotel instead of the Sheraton Palace, as originally planned.

This change also involved setting back to June 3 the oral argument in Washington heretofore set for May 1.

### ICC Bureau Gets New Name

The ICC's Bureau of Rates, Tariffs and Informal Cases has been renamed the Bureau of Traffic.

No change in organization of the bureau is involved in the redesignation, which is in line with the recent realignment of the commission's formal proceedings work (Railway Age, Mar. 11, p. 27). The commission also announced that the Bureau of Motor Carriers will now report through Commissioner Walrath, the Bureau of Water Carriers through Commissioner Winchell, and the new Bureau of Operating Rights through Commissioner Hutchinson.



EXPRESS SHIPMENTS between the U.S. mainland and interior cities in Puerto Rico and the Virgin Islands move on tractor-trailer units like the

one above. Between continental U.S. and port cities of the islands, shipments are transported in sealed trailers to and from Jacksonville, Fla.

## REA-TMT Offer New Trailership Service

First through service offering single-carrier responsibility for express shipments between the U.S. mainland and Puerto Rico and the Virgin Islands was inaugurated April 1.

Announcement of the new operation was made jointly by A. L. Hammell, president of Railway Express Agency, and Eric Rath, president, TMT Trailer Ferry, Inc.

The new trailer roll-on, roll-off, trailership service of TMT, which was recently appointed agent for

REA, will provide the service between the mainland of the U.S. and the island points.

Vehicle pickup and delivery services in Puerto Rico and the Virgin Islands, as well as in the continental U.S., are included in the single, through charge for the new service. Shipments move under regular domestic express receipt. REA's special low import-export rates covering the domestic rail express haul apply to the new service.

## 'Stay Young,' Barriger Tells Railroads

"Stay young" is John W. Barriger's advice to railroads which would attract business in the current buyers market for transportation services. The president of the Pittsburgh & Lake Erie offered the advice in an address to students of American University's Eleventh Rail Transportation Institute in Washington, D. C.

He spoke at the closing session of the Institute which was conducted under the direction of Loyd J. Kierman, former executive vice-president of the Boston & Maine.

To keep young, railroads must keep an open mind to progress and make adjustments necessary to meet changing conditions, Mr. Barriger said. He went on to stress the importance of infusing new capital and new ideas into the industry.

In the latter connection, he said, the industry has a real opportunity to plan and supervise its work more intelligently and to educate and train

individual employees. "Haphazard methods," Mr. Barriger warned, "do not produce competent men. Railroad work is becoming too complicated to rely on mere exposure to the day's work as a training method. The officer group must be definitely produced by training."

Mass producers "in the true sense" is what railroads must become if they are to attract the capital necessary for them to "stay young," Mr. Barriger said. He thinks this calls for large-scale consolidations, because: "Had railroads been amalgamated 30 years or more ago into a limited number of systems, they would have been immune to the traffic erosion."

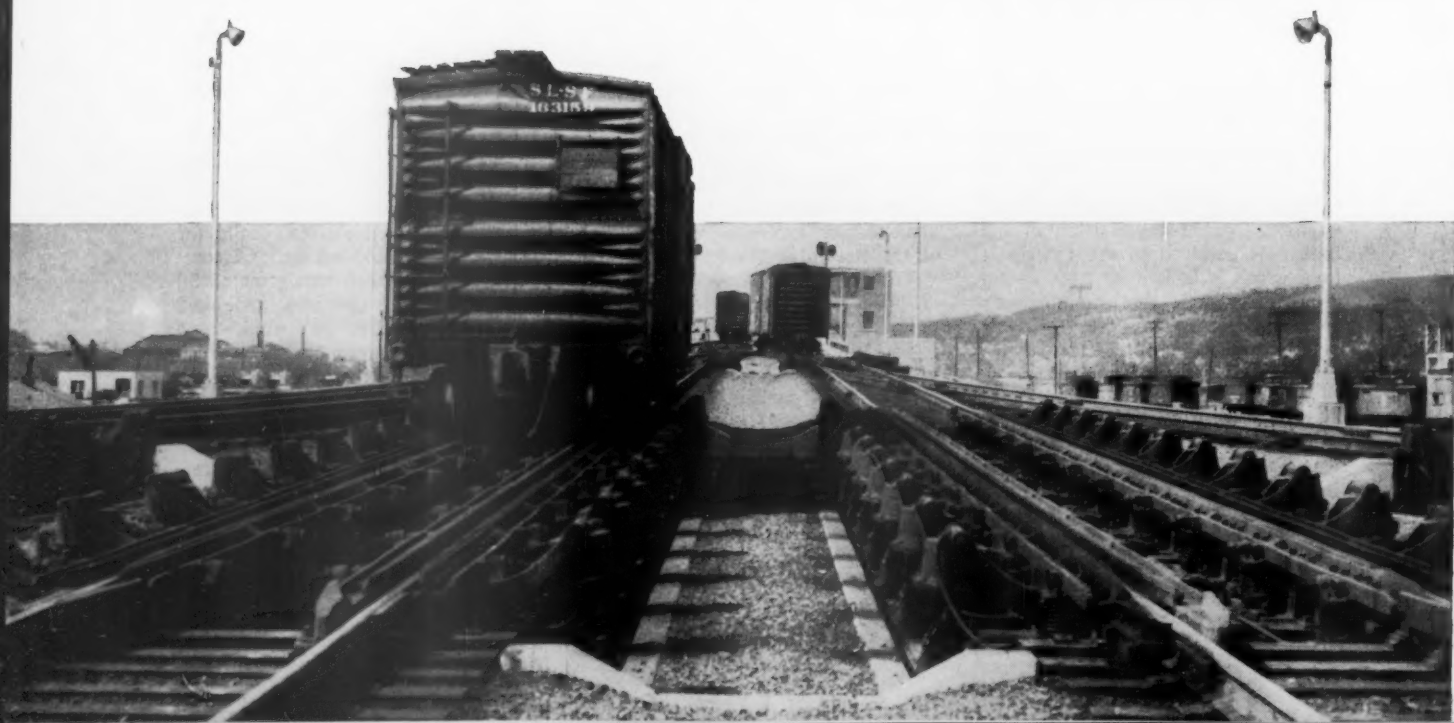
"If consolidations can be achieved," the P&LE president added, "railroads again will be in the forefront of American industry. Large-scale consolidations will release the dynamic growth potential of the industry."

(Department continued on page 42)



PENNSYLVANIA RAILROAD'S new classification yard at Conway, Pa. equipped with UNION Automatic Classification Yard System.

## **World's largest classification** **UNION Automatic**







CONTROL CONSOLE for eastbound yard. Cars are classified at a rate of about five cars per minute.

## yard - - - equipped with **Classification Yard System**

THE PENNSYLVANIA RAILROAD's new classification yard at Conway, Pa., near Pittsburgh, will have 110 classification tracks when completed. This is the world's largest.

The eastbound yard of 54 tracks is already in operation, and in one eight-hour test period 1615 cars were classified.

The westbound yard, still under construction, will double the capacity. This yard will be completely automatic in operation.

For each cut of cars, the VELAC automatic control equipment positions switches and determines weight, rollability and track fullness. Then, taking into account the route resistance, an electronic computer calculates proper release speed, and car retarder pressures are regulated automatically so that cars will travel to point of coupling at desired speed. This is the most modern and complete automatic classification yard control system available today.

### OUTSTANDING ADVANTAGES

1. SPEEDS CAR CLASSIFICATION
2. PRACTICALLY ELIMINATES DAMAGE to lading and cars—smoother coupling
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4. REDUCES OPERATING EXPENSE
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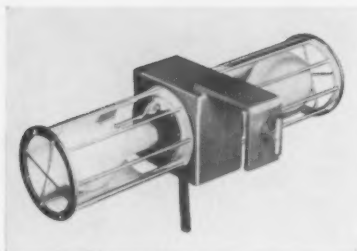
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NEW YORK . . . . . CHICAGO . . . . . PITTSBURGH . . . . . ST. LOUIS . . . . . SAN FRANCISCO



### Cargo Light

*... for freight cars*

For high intensity illumination inside freight cars, this unit will accommodate two bulbs up to 200 watts in size. The bulbs are supported in rubber-mounted sockets to resist shock and are protected by a rotating plated-steel reflector. The mounting bracket is designed for hanging the light source in automotive-type freight cars.

A total of 35 ft of three conductor, type ST, chrome yellow, power-supply cord is supplied with a three-prong, grounding type, electrical plug. The cord is visible in the dark. Lamp guards and the 14 gage steel body are completely grounded. The unit is 17-1/2 in. long and weighs 9 lb, including the cord. *Hoffman Engineering Corporation, Dept. RA, 1542 Tyler st., Anoka, Minn.*•



### Lift Truck

*... for narrow spaces*

An electric lift truck designed for use where space is a premium is 48

in. long and has a capacity of 1,500 lb.

The design was made possible by the use of batteries higher and narrower than the standard type. The batteries are capable of running a full 8-hr shift without recharge.

The truck has a turning radius of 49 1/2 in. and will operate in a 50-in. right angle intersecting aisle. Its lifting height is 135 in. with a mast height of 83 in., or 105 in. of lift with 68-in. mast height. It travels at 5 mph and is available with either hydraulic mono-lift or duo-lift mechanisms. *Automatic Transportation Company, Division of Yale & Towne Manufacturing Co., Dept. RA, Chicago 20* •



### Self-Activated Marker Light

*... increases visibility*

Commercial high brightness safety signals and markers now utilize radioactive krypton 85. Designed for installation where power and maintenance are limited, these signals and markers employ treated phosphor crystals excited to luminescence by Kr<sup>85</sup>. Units are available in a variety of shapes, sizes and brightnesses.

In clear weather, the lights reportedly are readily visible more than 500 yards. Colors available include blue, green, yellow, pale orange and orange-red.

Sources are enclosed in hermeti-

cally sealed, transparent capsules which are weather and tamper-proof, requiring no maintenance.

The useful life expectancy is 10 years or more. *U. S. Radium Corporation, Dept. RA, Morristown, N. J.* •



### Steam Cleaner

*... for heavy equipment*

This Model 45 cleaner produces a steady jet of steam at 120 lb pressure for cleaning heavy railroad and industrial equipment. It consumes 1 1/4 gal of No. 1 fuel oil per hour. The gun can mix a concentrated alkali with the steam to cut through grease packed dirt. Then the concentrate may be turned off to rinse with clean steam for painting.

A 1/3-hp 110-volt motor, with an overload cut off, drives the positive displacement water pump. The steam is formed in coils heated by forced draft fuel oil or gas flame. A float-control maintains the water supply. Fuel-oil capacity provides 4 hr of steady steam cleaning.

Cleaning gun, 16 ft of wire-braided steam hose and cleaning solution hose, form a unit ready to operate by making service connections. Standard model has no wheels, but a three-wheel kit is available. *Vapor Heating Corporation, Dept. RA, 80 E. Jackson blvd., Chicago 4*•

# Pin-Point Control for Plant and Property Protection



...with High-Definition

## PHILCO *Industrial TV*

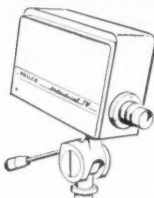


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Observe Transportation Terminals

Watch for Fires



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A third **ACF** TALGO has been running successfully in America for almost a year now,

proving the soundness of its design and construction...economical, comfortable and popular.

Now there's a *fourth*! In daily revenue service on the New Haven...proving that in really modern trains, *proven* trains...**ACF** sets the pace! More and more passengers each year will be saying, in one language or another, "¡Viva **ACF** TALGO!"

QCF sets the pace  
in passenger equipment



# TALGO

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*Plants:* Berwick, Pa. • Huntington, W. Va. • Milton, Pa. • St. Charles, Mo. • St. Louis, Mo.

SAVE \$4.13  
PER TIE

15 YEARS  
X 35¢

2 \$1.12



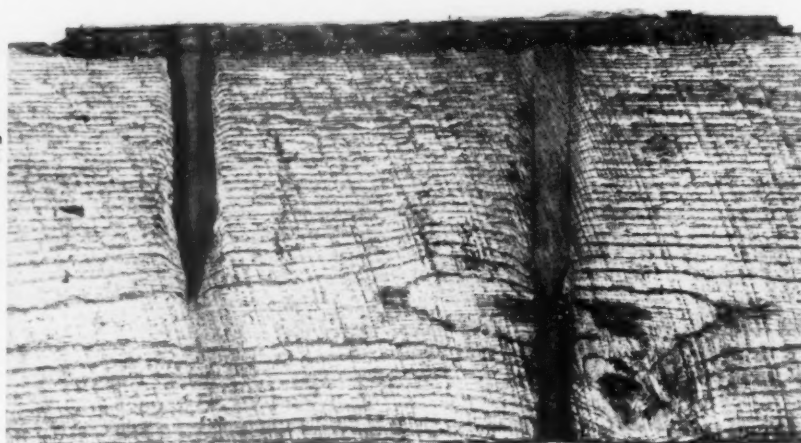
Prove for yourself...how

**BIRD**

**Self-Sealing Tie Pads**

Reduce Your Cross Tie Costs

**59%**



*Unretouched photograph shows cross-section of tie protected for 10 years by Bird Self-Sealing Tie Pads. Sound condition of underplate and spike-hole areas shows that destructive moisture and abrasive materials did not penetrate the seal.*

HERE'S HOW TO PROVE for yourself that Bird Self-Sealing Tie Pads reduce cross tie costs 59%: The average installed cost of a new main line cross tie, including cost of original tie plus labor, is \$7.00\*. With a normal life of 20 years, this amounts to 35¢ per year.

Actual in-track installations *prove* that Bird Self-Sealing Tie Pads increase the life of the average tie by at least 15 years. At 35¢ per year, this saving amounts to \$5.25. The approximate cost of obtaining this saving is \$1.12 — for two 7¾" x 12" Bird

Self-Sealing Tie Pads. *Net saving is \$4.13 — or 59% of the installed cost of the original tie.*

Bird Self-Sealing Tie Pads completely and permanently seal out moisture and abrasive materials from underplate and spike-hole areas. In addition to savings in tie wear and deterioration, you reduce irregular gauge and inadequate tie plate bearing.

Use Bird Self-Sealing Tie Pads — and reduce your cross tie costs 59%! For complete information write to Bird Tie Pads, Dept.HRA, East Walpole, Mass.

\*These figures represent the most conservative minimum. If your costs are higher, savings are proportionately higher.

**BIRD SELF-SEALING TIE PADS ARE RECOMMENDED FOR:**

Bridge Decks • Curves • Switch Timbers  
Highway Grade Crossings and Other  
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Insulated Joints • With Smaller Tie Plates  
Pile Cutoffs • Through Station Platforms  
Out-of-Face Installations in Rail-Laying  
Programs • All other locations where  
tie life is short or replacement costs are high.

*Buy the Best...*



*Buy BIRD*



## How Reflective Train Control system works for operational safety



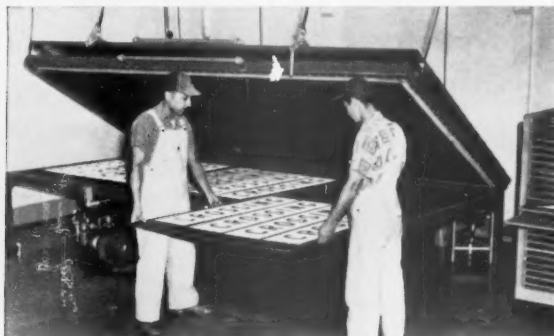
**Control signs** reflectorized with "Scotchlite" Reflective Sheeting provide 24-hour-a-day operational safety and maintenance economy. This signing system, called Reflective Train Control (RTC), makes the full color, shape and legend of each roadway sign clearly visible by night as well as by day in any kind of

weather. Modern, economical train control like this gives the engineer a wide margin of safety when he needs it most.

Signs of vivid, durable "Scotchlite" Sheeting reflect their message in each approaching headlamp beam . . . can be seen from ½ mile away at night.



**Switch targets** of "Scotchlite" Sheeting are a low cost way to prevent accidents caused by vandalism or neglected lamps. RTC system signs and cross bucks, too, give you 24-hour-a-day safety *plus* much longer life than ordinary painted panels.



**Economy** of Central Sign Shop production of reflective train control signs comes from making signs in one shop, using only 1 to 3 men. Further economies result from elimination of field painting and maintenance.

Reflective Train Control with signs of "Scotchlite" Sheeting gives you increased safety with lower maintenance costs. Get the facts on RTC for your road now. Write 3M Company, Dept. FQ-487, St. Paul, Minnesota.

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BRAND  
**REFLECTIVE SHEETING**



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# Friction or Rubber

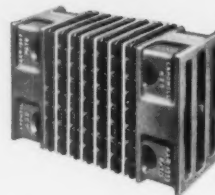
DEPEND ON  
CARDWELL  
WESTINGHOUSE  
FOR EITHER  
TYPE!

FRICITION



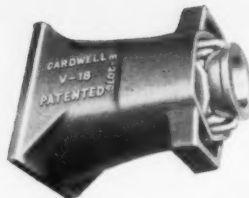
Westinghouse Friction  
Draft Gear NY-11-F.  
A.A.R. Certified.

RUBBER



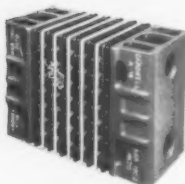
Cardwell Rubber  
Draft Gear R-20.  
A.A.R. Certified.

FRICITION



Cardwell Friction  
Draft Gear V-18  
(for short pockets).  
A.A.R. Certified.

RUBBER



Cardwell Rubber  
Draft Gear R-18 (for  
short pockets).  
A.A.R. Certified.

**ANY** Cardwell Westinghouse Product Assures  
Good Performance... **ALL** Exceed A.A.R. Requirements...

Cardwell Westinghouse has produced good gears for years . . . gears with adequate capacity to absorb all shocks, large and small! Cardwell Westinghouse Friction Gears, widely recognized for their dependable performance, put friction to work protecting valuable ladings and equipment.

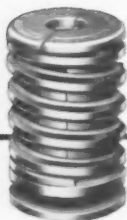
Cardwell Westinghouse Rubber Gears measure up to the same high standards. Capacity, endurance and sturdiness . . . all to exceed rigid A.A.R. specifications! Too, these gears are easily installed . . . completely interchangeable.

Specify Cardwell Westinghouse . . . "Friction" or "Rubber." Cardwell Westinghouse offers both types . . . either will serve you well!

**CARDWELL WESTINGHOUSE CO.**

332 S. Michigan Ave., Chicago 4, Illinois

Canadian Cardwell Co., Ltd., Montreal



Cardwell Friction  
Bolster Springs, too!

Specify  
**CARDWELL WESTINGHOUSE**

**New classification yard  
for Southern**



## **CAT\* WHEEL-TYPE TRACTORS MOVE 5 MILLION YARDS-FAST**

At Atlanta, a new automatic retarder classification yard is taking shape for Southern Railway System. This is a large construction job, requiring the moving of approximately 5 million cubic yards of earth and rock. Caterpillar wheel-type Tractors are the backbone of the grading fleet doing the job.

Morrison-Knudsen Company, Inc., and Moss-Thornton Co., Inc., contractors for the job, have six DW21s, two DW20s, two D9s and a D8 at work. When the big job is finished this year, the new yard, which requires 85-foot cuts, will be 4½ miles long, one-half mile wide.

The big yellow units are making the earth fly. Averaging a round trip every six minutes on a one-half-mile haul, they are carrying an average payload of 16 yards. Material is clay, rock and sand.

Now the production of these big units has been increased even more. The DW21 (Series C) with its 300 HP (maximum output) Turbocharged engine is perfectly matched with its new No. 470 LOWBOWL Scraper. The lower, wider bowl design loads more

earth faster with a capacity of 25 cu. yd. heaped, 18 cu. yd. struck. That means still better cycle time and bigger production. And you get the same efficient LOWBOWL design in the new No. 456 Scraper matched to the four-wheeled DW20.

Your Caterpillar Dealer has dependable equipment that can be used for practically all of your off-track work. He carries your parts inventory and gives you fast, efficient service around the clock. Have him demonstrate his high production equipment on your job. Call him today.

Caterpillar Tractor Co., Peoria, Illinois, U. S. A.

# **CATERPILLAR\***

\*Caterpillar and Cat are Registered Trademarks of Caterpillar Tractor Co.

**NAME THE DATE...  
YOUR DEALER  
WILL DEMONSTRATE**



# GOOD APPROACH TO



## *Perfect shipping isn't a one-man job.*

But the approach to it is all the same. Whether it's this railroad man, who has a good deal to do with it one way or another, or all the other thousands of men who have a part in it — rolling up the sleeves is a good way to start.

The roller-upper is going to do something about it *himself* — not take for granted that it's a job for somebody else.

Great emphasis is being placed upon today's production lines that turn out better and better products for all of us. But it is worth noting that another line — the *distribution line* — both precedes and follows after the production line.

*Ahead of* finished goods flow the never-ending streams of materials, parts and pieces that must be packed properly and shipped safely to the nation's widely-dispersed plants and factories.

*After* the thousands of components are milled, machined, worked-over, shaped, processed and fitted together to make the finished goods, the matter of their safe transportation from maker to market becomes, again, one of paramount importance. Again the question of good packing materials and methods, the sealing, stapling, stitching or strapping, the accurate and clear marking, the proper loading, stowing, blocking and bracing, the careful switching and handling by the railroads, care in unloading, care in freight houses and warehouses... safe delivery.

There's a lot to it. Some of it is railroad work. Much of it is pre-transportation work. Plenty of work and plenty of responsibility for all of us.

The time to roll 'em up for Perfect Shipping is NOW.

**ASSOCIATION OF AMERICAN RAILROADS**

**Washington, D. C.**



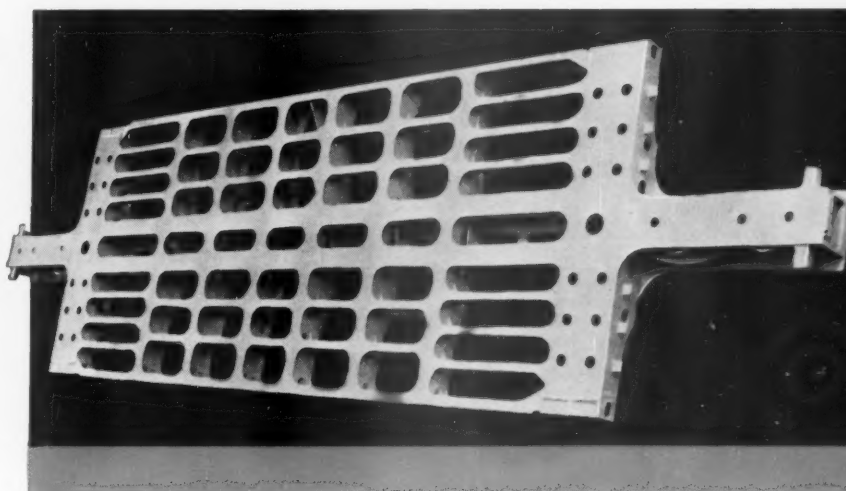
Specially designed, providing  
**rugged stamina**  
 for continuous, dependable  
 service!



**New Santa Fe Ore Cars with Maintenance-Free Commonwealth One-Piece Underframes will withstand heavy punishment!**

These Santa Fe ore cars are sure to stand up under the *rugge*dest kind of service—the handling of copper ore—and remain in continuous operation! These new high capacity cars have clasp brake trucks with 6½ x 12 axles. They're specially designed with Commonwealth one-piece cast steel underframes providing exceptional strength at minimum weight, and assuring maximum availability—increased revenue.

The greater impact value of cast steel and the one-piece underframe design withstand ore loading impact better than other types of construction. Our years of experience in the design and production of Commonwealth Underframes have resulted in the elimination of costly maintenance.



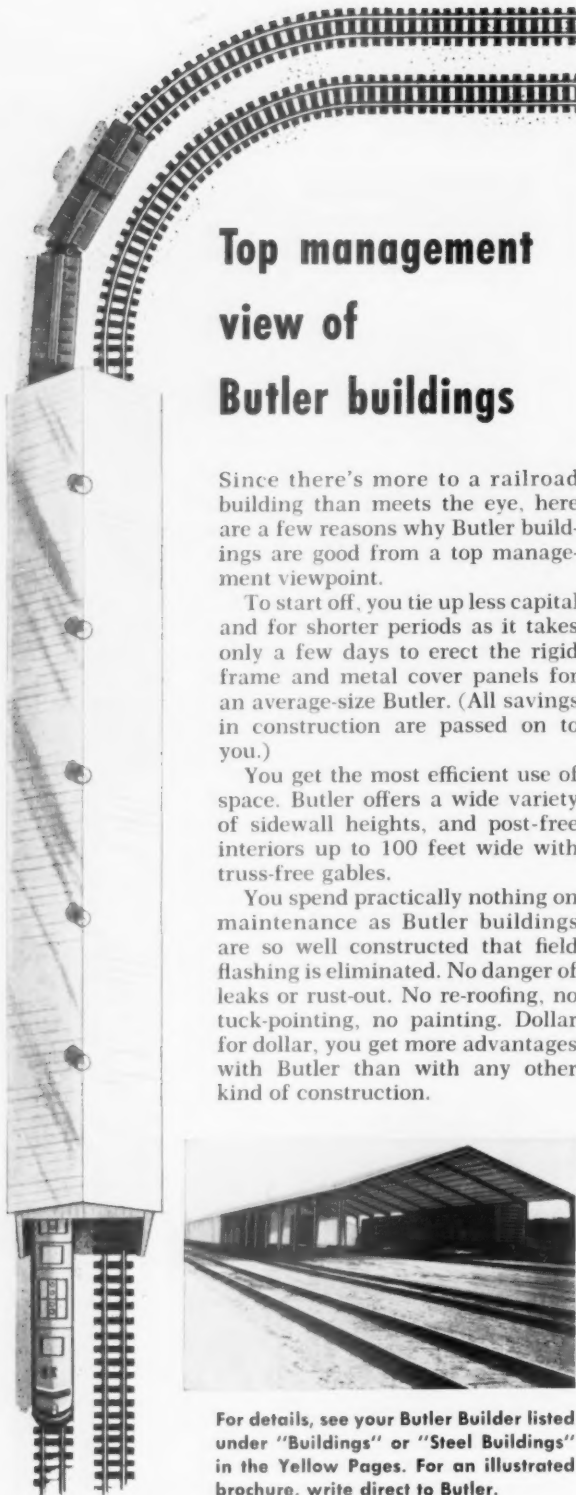
Whether you require ore cars, flat cars, pulpwood cars, sulphur-carrying cars, well cars or depressed center cars, build with Commonwealth Underframes—and benefit from these advantages.



**GENERAL STEEL CASTINGS**

GRANITE CITY, ILL. • EDDYSTONE, PA. • AVONMORE, PA.





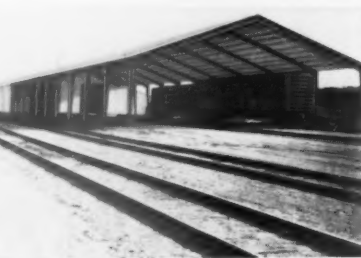
## Top management view of Butler buildings

Since there's more to a railroad building than meets the eye, here are a few reasons why Butler buildings are good from a top management viewpoint.

To start off, you tie up less capital and for shorter periods as it takes only a few days to erect the rigid frame and metal cover panels for an average-size Butler. (All savings in construction are passed on to you.)

You get the most efficient use of space. Butler offers a wide variety of sidewall heights, and post-free interiors up to 100 feet wide with truss-free gables.

You spend practically nothing on maintenance as Butler buildings are so well constructed that field flashing is eliminated. No danger of leaks or rust-out. No re-roofing, no tuck-pointing, no painting. Dollar for dollar, you get more advantages with Butler than with any other kind of construction.



For details, see your Butler Builder listed under "Buildings" or "Steel Buildings" in the Yellow Pages. For an illustrated brochure, write direct to Butler.



### BUTLER MANUFACTURING COMPANY

7371 East 13th Street, Kansas City 26, Missouri

Manufacturers of Buildings • Oil Equipment • Farm Equipment  
Dry Cleaners Equipment • Outdoor Advertising Equipment • Custom Fabrication  
Sales offices in Los Angeles and Richmond, Calif. • Houston, Tex. • Birmingham, Ala.  
Atlanta, Ga. • Minneapolis, Minn. • Chicago, Ill. • Detroit, Mich. • Cleveland, Ohio  
New York City and Syracuse, N. Y. • Washington, D. C. • Burlington, Ontario, Canada

## THE BALTIMORE and OHIO RAILROAD COMPANY

130th Annual Report—Year 1956

Income:	Year 1956	Comparison With 1955
		(+) Increase (-) Decrease
From transportation of freight passengers, mail, express, etc.	\$465,484,696	+\$33,423,279
From other sources—interest, dividends, rents, etc.	7,746,340	— 440,574
Total Income	\$473,231,036	+\$32,982,705

### Expenditures:

Payrolls, supplies, services, taxes	\$406,718,960	+\$28,894,811
Interest, rents and services	36,473,815	— 2,031,585
Total Expenditures	\$443,192,775	+\$26,863,226

### Net Income:

For improvements, sinking funds and other purposes	\$ 30,038,261	+\$6,119,479
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The full annual dividend of \$4.00 per share on the preferred stock was paid quarterly during 1956, and improved earnings justified an increase in the dividend on the common stock to \$2.50 per share, which was paid December 27, 1956.

Interest on long-term debt decreased \$2,029,097, compared with 1955, reflecting the saving realized in 1956 from the 1955 refinancing. Since August 15, 1938, there has been a net reduction in long-term debt of \$193,054,394. In the same period annual interest charges have been reduced \$11,917,942.

In 1956 the company added more than 2,000 new freight train cars to its fleet, and accelerated its car repair program. At the end of the year only 3.7% of cars owned were unserviceable, compared with 6.6% at the beginning of the year. Additional freight cars on order and continuation of the repair program should provide an adequate car supply in 1957. At the end of 1956 Diesel power was handling 86% of the company's freight traffic, 99% of its passenger traffic, and 83% of its yard switching.

*J. H. Livingston*, President



## Supply Trade

H. J. Groenendale, sales engineer, New York district office, **Union Switch & Signal—Division of Westinghouse Air Brake Company**, has been promoted to assistant district manager there; W. R. Fisher, sales engineer, Chicago district, has been transferred to New York; and F. M. Kenney, Jr., sales engineer, Pittsburgh district, has been transferred to Chicago. W. G. Kendall, project engineer, has been named sales engineer at Pittsburgh and J. I. Grammer, sales engineer in New York, has been transferred to the engineering department at Swissvale, as senior engineer.

Harry Lock, of **Plastic Armor Company**, Sherman Oaks, Cal., has been named west coast regional sales representative for **Archer-Daniels-Midland Company's** Freight Liner system.

Bates H. Murphy has been named manager of advertising, sales promotion and marketing personnel development for **General Electric Company's** locomotive and car equipment department.

Karl N. Heimbach, sales engineer in the New York office of **General Railway Signal Company**, has been appointed assistant export manager, in charge of South American business, with headquarters in Sao Paulo, Brazil. George J. Shannon, sales engineer at New York, has been promoted to resident manager of the St. Louis office.

Floyd H. Albert, district engineer, **Electro-Motive Division of General Motors Corporation**, has been promoted to district sales representative, St. Louis region.

The company name of **Canadian Car & Foundry Company, Ltd.**, has been changed to **Canadian Car Company, Ltd.**

The name of **Line Material Company** has been changed to **Line Material Industries, McGraw-Edison Company**. L-M was a division of McGraw Electric Company, which was recently consolidated with Thomas A. Edison, Inc.

**Continental-Diamond Fibre Division** of the **Budd Company** has announced a change in name to **Continental-Diamond Fibre Corporation**. It remains a wholly owned subsidiary of the Budd Company. E. Wayne Frazer, formerly with **Scott Paper Company**, has been appointed assistant export sales manager.

H. T. Ross, manager of engineering of **Linde Air Products Company**, has been named vice-president—engineering.

W. O. Horwood has been appointed eastern sales manager of **International Equipment Company, Ltd.**, and its subsidiary, **Industrial Equipment Company, Ltd.** J. C. Hodges, formerly with the **Canadian National**, has been named assistant to president of **International Equipment**.

W. Ashley Gray, Jr., has joined **General Steel Castings Corporation** as assistant to vice-president—sales at Granite City, Ill. Mr. Gray will represent the company on western railroads.

A. J. Reading and W. S. Meyer have joined the transportation division of **National Aluminate Corporation** in sales and service capacities.



### HERE'S PROOF:

...in this 57,000 square foot fabricating plant.

ESTIMATED LIGHTING COST — \$600.00 PER MONTH  
(12 HR. DAY, NO SKYLIGHTS)

ACTUAL LIGHTING COST — (LESS THAN) \$100.00 PER MONTH  
(WITH CORRULUX)

SAVINGS — \$500.00 PER MONTH

Obviously, one year's savings will more than absorb original Corrugulux cost — take it from there. Just figure your added profits in ten years!

For new construction or existing daylighting problems...let us show you how you can make similar savings.



Corrugulux is available in a wide range of sheet sizes and corrugations to match standard roofing and siding.

Flat Corrugulux panes are ideal for industrial glazing... permit you to reglaze for the last time.



## Corrugulux®

L.O.F. GLASS FIBERS COMPANY,  
P. O. BOX 20026, HOUSTON 25, TEXAS

SURER, SAFER, SIMPLER CONTROL



give

**Positive Shift Prevention!** Built-in fiber retainers prevent both endwise shift and shift from journal rotation. Pad resilience holds retainers against side of box, away from journal. One universal style for use in boxes with or without retaining ribs.

**Far Better Wicking Action!** New heavier cotton weave provides superior wicking action. Cover is woven as a single tube, eliminating all possible seams from the wicking path. The twin design also provides for equalization of the oil level in the journal box through a channel at the center.

**Improved Resilience!** Twin inserts are made of specially molded foam neoprene, compounded to our specifications. This provides excellent set resistance and oil absorption properties, and is designed for improved resilience.

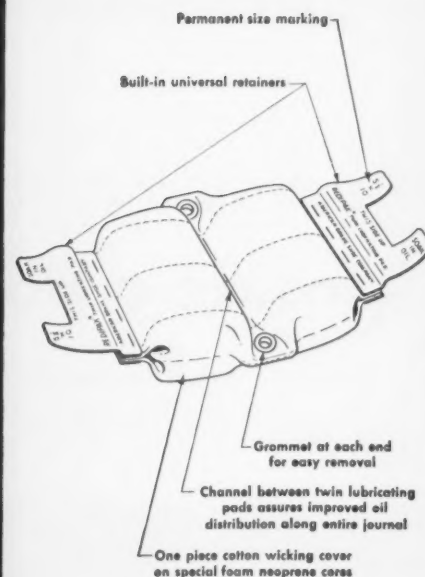
**Superior Oil Distribution!** New twin design assures improved oil distribution along the entire length of the journal.

# OF THE HOT BOX PROBLEM!



For boxes with or without retaining ribs, fiber plates integral with the new Redipak twin pads engage the stop columns, preventing both endwise and rotational shifting.

## COMPARE THESE FEATURES OF REDIPAK TWIN PADS



Here it is . . . the new, improved Redipak twin lubricating pad! This latest triumph of American Brake Shoe's bearing research retains the simplicity, economy, and durability of the original model—yet achieves new standards of dependable, all-year-round lubrication!

This new Redipak twin lubricating pad is even easier to install, too. Sturdy fiber retainers keep it securely in position . . . whether or not the box is equipped with retaining ribs.

Try out this new Redipak twin lubricating pad and see for yourself how it improves lubrication!



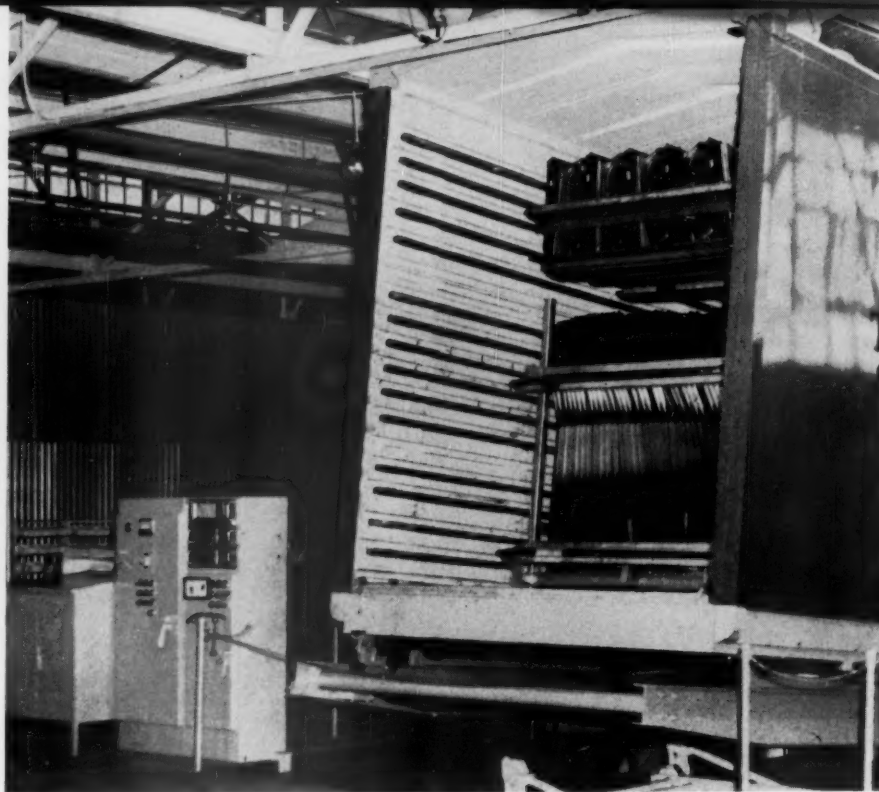
RAILROAD PRODUCTS DIVISION

230 Park Avenue • New York 17, N. Y.

A-4542



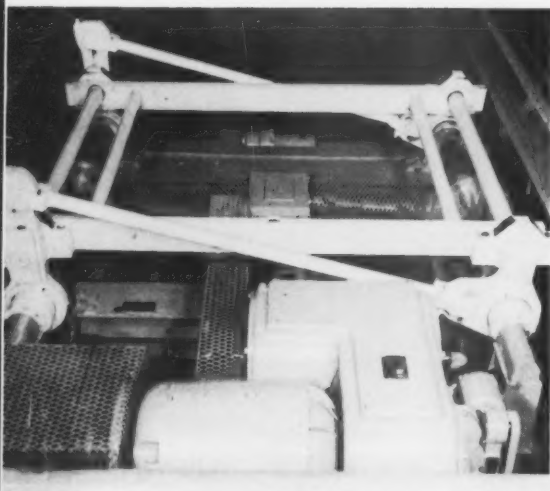
**LOAD OF AUTO PARTS** in the car ride simulator is positioned ready for an impact test. The simulator has three parts: (1) a commercially available vibrator drive unit, (2) 1/3 of a PS-1 boxcar, and (3) an incline impact tester.



LABORATORY STUDIES GO . . .

## Inside a Box Car During Transit

Fisher Body uses a real box car and a car ride simulator in the firm's materials handling laboratory to study and improve loading and packaging.



**VIBRATOR DRIVE UNIT** reproduces the in-transit motion of a freight car for the test machine. The vibrator was constructed by LAB Corporation.

With damage-free shipment as its goal, the Fisher Body division of General Motors Corporation has established a laboratory setup which enables it to simulate actual transportation conditions. F. H. Burns, who heads up Fisher Body's materials handling and traffic department, says the objective of its research program is to "more efficiently utilize space in a freight car for damage-free shipment. This includes improving and developing loading technique in advance of each new automobile model."

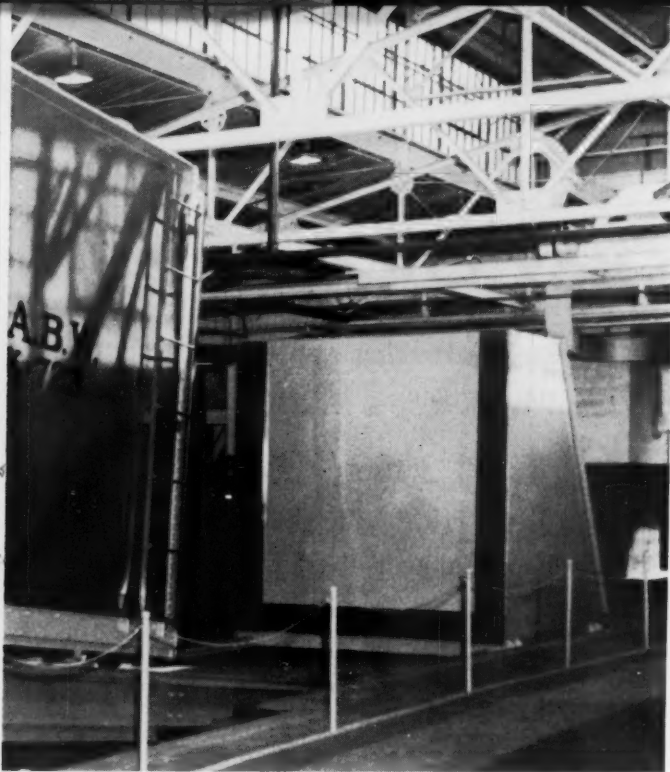
To understand what happens in transit to its 14,000 monthly carload shipments of roofs, quarter panels, deck lids, and other automobile body components, and to better prepare these components for their rail journeys, the division's materials handling and traffic section constructed a car ride simulator. Designed by Fisher Body engineers, it consists of a one-third portion of a box car mounted

on an oscillating vibrating mechanism. It is also equipped with an inclined plane type impact tester.

The ride simulator is capable of 96 different motions which may occur during a normal freight car's transit. As a result of tests conducted by the Association of American Railroads, the Pennsylvania, and Fisher, these basic movements were boiled down to frequency, motion, amplitude, and duration.

With accurate data on car movement thus available, Fisher Body moved ahead with plans to attack its packaging problems. A given commodity is loaded into the car ride simulator and checked in the basic motions. Then the amplitude effect is checked.

Next, as soon as the weak point in the particular item is found, a duration test is conducted on the commodity to simulate the length of the run to the final destination. As soon as the damaging motions are discovered, the



INSIDE THE STATIONARY PS-1 car, Fisher Body's materials handling engineers perfect and develop loading techniques for each new automobile model.

various loading techniques are checked in the simulator to determine the best shipping method.

Today, the Fisher Body Division is keeping ahead in its packaging planning. Formerly, the materials handling section had to develop loading methods and techniques for each year's new automobile models after production got under way. Now, with the help of the car ride simulator, theoretical loading techniques are tested and proved before a new model is even in production.

Right now, Fisher Body is working on the packaging and loading of 1958 models by developing packaging techniques and determining the amount of railroad equipment they will need to handle traffic in 1958.

The following projects are specifically programmed for study with the car ride simulator:

1. The advanced packaging program for the new automobile models.
2. Investigation into current problems and troublesome packaging techniques.
3. A research and development program.

The car ride simulator already has been a big factor in cutting Fisher Body's loss and damage claims. As Mr. Burns says: "The only loss and damage claims we ever want to file are those for wrecks where a carload is obviously destroyed. With our packaging program we hope to eliminate all the small claims."

## How Fisher Uses 'Ride Simulator'

### ...TO CUT WINDSHIELD GLASS BREAKAGE

Transit damage to curved automobile windshield glass has long been a knotty problem. Railroads, glass manufacturers and automobile builders have been working on ways to cut the resulting expensive damage claims.

Using standard windshield-glass crates, Fisher Body's materials handling division tested shipments on its new car ride simulator and found some crates averaging 6 to 8 pieces broken per box of 25 windshields.

Following analysis of pressure points in the crate, the laboratory came up with some crate modifications and loading recommendations which, when tested, almost eliminated in-transit glass breakage.

Non-uniform movement of glass within the container during transit and under impact is the cause of breakage, technicians found. To make the glass movement uniform, engineers removed the center cleat from the glass crates, and increased the size of the upper and lower horizontal supports. This change eases the excessive load on the glass at the center, resulting in elimination of damage in that area.

In further tests, it was discovered that glass in the last crate next to the end wall of a box car was receiving an excessive amount of damage. The engineers reasoned that this resulted because the container loaded against the end of the car had no room for "give" to ease in-transit shocks.

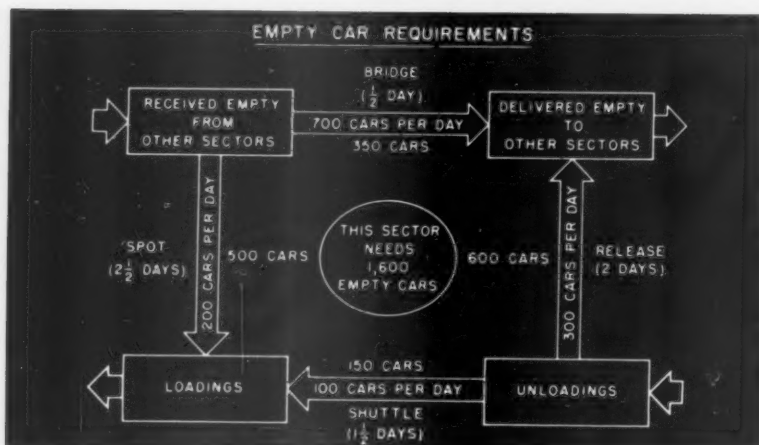
Experiments were conducted with cross members located 4 in. from the end of the car wall to brace each crate. In this way, contact with the end of the car was eliminated. The results of these tests showed that the flexibility of the cross members cushions the glass upon impact and reduces the damage.

HOW CAN RAILROADS GET . . .

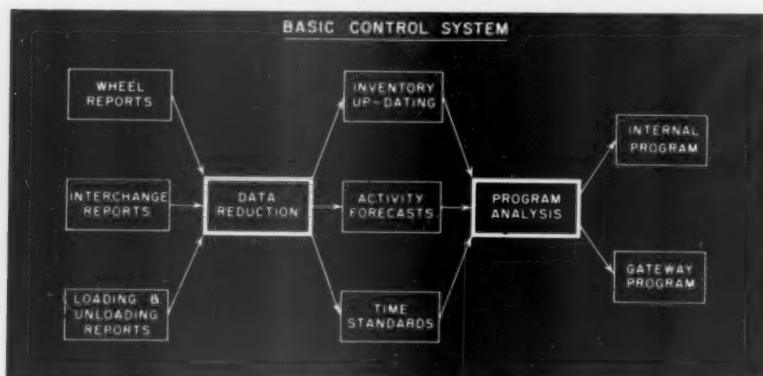
## More Miles from the Box Car?

THE PROBLEM, as seen by the Southern Pacific: Meeting shipper needs for proper grade box cars while minimizing total expenses of ownership, rental, upgrading, and empty car mileage.

THE SOLUTION: Better and more up-to-the-minute information as to demand for different grades of cars and the location of cars of any given grade available for loading; and a plan for redistribution among divisions of the railroad. Tools necessary for implementing a theoretically workable solution were found to be a mathematical (Operations Research) model of the problem and a medium speed electronic data processing machine.



**HOW MANY CARS?** Product of standard delay time (in parentheses) and activity level (in arrows) for each category of car handling is computed. Their total is the division's need, against which supply can be adjusted up or down.



**ACTIVITY OF THE COMPUTER** is indicated by boxes in heavy lines. Other boxes indicate input to the computer, output from it, and in the case of inventory updating a manual activity which precedes feeding the inventory figures into the computer. Internal program involves intra- and inter-divisional moves. Gateway program involves interchanges to and from connections, which are affected by Car Service Rules and special orders of AAR Car Service Division.

Like every other railroad, the Southern Pacific would like to utilize its freight cars better than it has been able to do in the past. As L. J. Lyons, SP's superintendent of freight car service, told the Railway Systems & Procedures Association at Chicago on April 2, general purpose box cars are the biggest headache to car distribution forces.

For that reason the SP's program for improving its use of cars concentrated first on better distribution of this class of equipment.

In its investigations SP found that as a rule the empty made much less mileage daily than did its loaded counterpart. There were a number of reasons for this. Basically, however, poor distribution was due to a lack of the right kind of timely information which would enable system officers to do the best job of allocating available cars. Not only were headquarters people not able to anticipate demands in detail, they were not able even to know where there were available empties of the types needed. It was evident that if this information could be obtained, and processed speedily, needs might be met better, and at lower expense.

One of the first requirements, obviously, was to determine the level of loading and unloading activity predicted for each division. This has been done through an analysis of past activity, brought up to date by analysis of loading and unloading activity as currently reported.

But anticipating the needs of each division is only one part of the battle.



Headquarters at San Francisco also must know: empty cars on hand on each division; time delays involved, for each division, in each of four basic car handling activities (described later); and the combination of moves which will best meet the needs of each division while minimizing cross haul and empty mileage. These factors were found to be the keys to better distribution. In effect, therefore, what the SP had to learn was, how many cars of each grade each division has to have on hand in order to carry out its operations successfully.

### Aids Inventory

The railroad developed a 7:00 a.m. yard check report which shows three things about box car supply: the number on hand loaded, and in possession of the railroad; cars on shippers' and receivers' tracks; and cars empty in the possession of the railroad. A similar record in the past had been used almost exclusively for demurrage purposes. But incorporating these track checks into its already mechanized interchange and station-to-station car movement records provided SP with basic information needed to establish the inventory level on each division.

Empty car handling activities ("activity level") of each division were broken down into four categories:

1. Inbound movements — empties received from another division or interchange, then spotted on a shipper's track. An inbound move, then, essentially is spotting an empty car received from outside the division;
2. Outbound movements—cars released empty by a shipper and then

## How SP Uses Rough Grading

Basic to the new SP car distribution plan is a system-wide procedure for rough grading all general purpose box cars, based on exterior inspection. Such inspection and grading does not replace commodity grading. It is intended as an aid to both transportation and car department forces.

Grade characteristics under this system are:

"A" grade—Cars up to two years old, or which, regardless of age, have been upgraded recently or given heavy repairs. Superstructure, including roofs at side plates, and doors in first class condition. Underside of deck good. No broken or missing boards. Ends not bulged. Cars show signs at door threshold of last load being sugar, flour or other high class freight.

"B" grade—Cars two to four years old not recently overhauled or upgraded. Superstructure, roofs at side plates, and doors good. Ends slightly bulged, undersides of deck free from holes and broken boards.

"C" grade—Cars over four years old not recently overhauled or upgraded. Superstructure, doors, and roofs at side plates, in fair condition. Underside of deck free from holes and broken boards. Cars show signs at door threshold of

moved off the division without loading;

3. Shuttle moves—empties released by shippers and then spotted for loading somewhere else on the division; and

4. Bridge moves—empties moved through the division without entering a shipper's track.

Each of these basic operations requires an average number of hours or days, which SP calls a "standard delay time." These standard delay times vary



CAR INSPECTOR marks rough grade of car on both BR and AL ends of car, immediately above the lower horizontal side hand hold. Marking stays on car until inspectors feel grade should be changed.

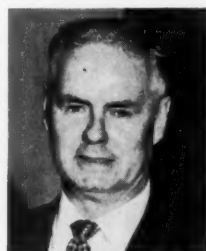
last load being commodity such as fertilizer, cement, plaster or similar product.

"D" grade—Everything else.

among divisions, of course depending on such factors as available crews and power, track congestion, etc. (And, of course, at different times of the year, delay times might vary on a division.) It was necessary to incorporate these delay times into the equation to be solved for distributing empty box cars.

Even with accurate information on car holdings, car handling times and expected rates of loading and unloading, determining an efficient pattern of

## They Set Up the Program



**L. J. LYONS**, superintendent freight car service. Under the new program there still are areas where his judgment must be applied in allocating cars among different divisions.



**C. H. GRANT**, general superintendent transportation. Had a natural interest in developing program for better car distribution since it gives promise of effectively reducing expenses.



**P. M. CHAIMOV**, manager freight protection, merchandise & station service. "Methods" staff is under his jurisdiction, and helped in studies leading to new system.



**L. E. HOYT**, assistant to general manager. A former division superintendent, he headed railroad's forces working on distribution problem and analysis of current activity.



**G. J. FEENEY**, manager, industrial operations research and electronic data processing research, Stanford Research Institute. Headed SRI forces working with SP on car distribution.

empty car movement presents many difficulties. A mathematical model of the railroad was constructed, showing each division, and making allowance for each grade of car. This model showed clearly that downgrading of cars represents no direct cost; upgrading of cars does generate cost; and of course moving cars of any grade from one division to another does generate crew, fuel and other direct costs.

From this model, SP was able to establish both a system for estimating the actions which would have to be taken to bring about a given car supply on any division, and the approximate cost of such actions. Since a great deal of data is processed in this system (handling 200,000 punched cards weekly), a medium-speed electronic data processing machine, the IBM 650, is used for working out solutions.

Fed into the computer are: (1) data from wheel and interchange reports,

showing station-to-station moves of each empty box car of a given grade, and receipt or delivery in interchange of each box car by grade; and (2) loading and unloading reports, which show each car spotted empty on a shipper's tracks to load, or released empty by a shipper after unloading. With this data reduced, inventory undating, activity forecasts for the divisions and the time standards for each type of movement mentioned above are introduced into the equation.

The IBM 650, operating at high speeds, then computes to find the best program possible. (The approximate cost of every car movement involved is known, of course.) Essentially, according to the SP, what the computer *does* is to take all possible combinations of actions, weigh the consequences of each such combination, and eventually to come up with the answer which will strike the best balance between costs and service for

the whole railroad. Instructions then are issued to the divisions as to action to be taken at that level.

Because of the time lag involved in transmission and processing of the basic data, the empty car inventories computed in the data reduction program are approximately one week old. Through analysis of certain summary reports presently prepared for other uses, SP updates these inventory levels and produces an accurate estimate of current inventory levels.

The forecast of future loading and unloading activity is prepared through analysis of actual activity levels, incorporating seasonal and trend estimates. The detailed forecasts are reviewed manually to permit the incorporation of special information which might suggest deviations from historical relationships. The determination of time standards for each of the basic delay times is essentially a management responsibility.

## Railroading



## After Hours with

*Jim Lyne*

**HOW INGENUITY BUILDS TRAFFIC**—Lou Sprague, retired chairman of the M&StL, has written me about his introduction of the Airslide car in handling dry bulk loads—which we mentioned briefly in our Jan. 28 issue, p. 27. Lou says the "prime factor" was the \$81 per carload the shipper would save, for sacks he could dispense with.

This initial installation required 20 cars—the shipper agreeing to ship a car a day, 365 days a year, bringing \$100,000 in net revenue to the railroad. It took a lot of negotiating to get an innovation like this going. But it is the exercise of such ingenuity in the customer's behalf that marks the creative salesman—who is a benefactor to his customer no less than to his employer.

I'd like to be able to print more reports like this one—where sales ingenuity has saved shippers money without sacrificing railroad revenue. Such things may often save the shipper more, and put traffic more securely on the rails, than costly rate concessions.

**TOASTMASTER CLUBS**—These clubs, being organized all over the country and devoted to the practice of public speaking, sound like they ought to be worthy of wide extension on the railroads. I am told that PRR employees have such a club of their own at Indianapolis and that there are one or more inter-railroad clubs of this kind in other cities.

One of my editorial associates, who has been a member of one of these clubs, says there are over 2,200 throughout the country.

Another kind of club—also including railroad people—that I heard about recently is an "investors' club." A dozen or more employees, in frequent contact with each other,

each agree to put \$10 or \$15 monthly into a common fund—and as soon as a couple of hundred dollars are in the kitty, the group's "investment committee" goes out and buys a few shares of stock. Practically an investment trust in miniature, and one easily open to fellows of modest means. Not a bad idea for encouraging more contacts among fellow-workers either.

**STAND-BY FOR PLANES**—On the matter of trains getting crowded when the planes are grounded, James P. Hogan of Hornell, N. Y., thinks it might be appropriate on such occasions to distribute to passengers copies of Ogden Nash's famous poem on the subject. The one that says the only trouble with riding trains is the kind of people you meet who are aboard only because the planes aren't flying.

Such distribution might please the regular passengers, but it would hardly cultivate friends for the railroad among the casual riders. A customer who comes to you only because he must, can hardly expect you to roll out the red carpet for him. On the other hand, I'd suppose treating him courteously, and taking as good care of him as crowded conditions permit, might be one way of converting him into a regular patron.

**WHY IS IT A "PRO"?**—Freight Agent H. L. McKay of the NYC at Galion, Ohio, wants to know why a freight bill is called a "pro." He has been asking old-timers this question ever since he's been railroading, and nobody has given him an answer. He suspects, maybe, before there was any interline billing that the bill represented a particular road's proportion (hence "pro") of the total revenue. Any suggestions?

# General Lasher Asks Some Questions

Speaker at annual dinner of Federation for Railway Progress subjects railroad attitudes, salesmanship, rates and service to critical examination.

The railroad industry is "static." That view was expressed by Major General E. C. R. Lasher in his address at the Tenth Annual FRP Dinner in Washington March 28. General Lasher is executive director of the Department of the Army's Military Traffic Management Agency.

He took a "look into the future" and saw indications that gross national product may double in the next 10 years—but the railroads "seem to be holding on dead center." He warned that to remain static is to invite death. He added:

"Why, if the railroads are moving only 650 billion ton-miles of freight today, do I say that in 1966 they will move only 650 billion? I say it because, in spite of the economy whose gross national product has doubled in the past 10 years, in spite of the great technological advances the railroads have made, they are moving about what they moved 10 years ago and they are about at capacity.

"Today, despite dieselization and scientific advances, a freight car does not move as fast as it did 10 years ago. Turnaround time is two days longer than it was 10 years ago. . . .

"Perhaps it is something to boast of that the railroads are investing an average of one billion dollars a year in physical improvements, that technological improvements have resulted in reductions in costs, that fewer cars and fewer locomotives are now needed to handle the same load. But, we are not talking about the same load. The load we are talking about for a large-scale war, if one must be fought, will make our tonnages of World War II seem small in comparison."

As to the attitude of the railroads, General Lasher has thought railroad men "too often" feel that little can be done until conditions in the transport field are made more equitable. "That," he added, "is the attitude that reduces motive power and cars as technology increases. That is the attitude that maintains capacity at 650 billion ton-miles."

Such a "defeatist attitude on the part of the leadership cannot but be

felt and reflected throughout the entire organization," General Lasher also said. He went on to ask if railroad men do not believe, as he does, that the railroads have "a growth, a strength and a service potential even yet untouched."

As to salesmanship, the general asked why it shouldn't start "on the shipping floor." Also, he suggested that every railroader should be a salesman of the industry's service, which "must be sold—sold hard and sold competitively," not merely "offered" to the public.

As to rates, the general's first question was: "What sort of pricing structure must it be that will permit a man to make a living by performing third and fourth audits of freight transportation bills?" Because of the "spread" in rates, he added, "everyone, starting with the freight forwarder, is riding 'piggyback' on the railroads."

Indicating his doubt that any railroader in his audience knew how to make cheese, General Lasher said he knew a large cheese manufacturer "who can provide himself with better and to him more economical transportation than the railroads will." The general added:

"Not all of the reason lies in the non-regulation of the private carrier. I venture to say that a complete analysis by you, not by him, of his sources, his outlets, his costs and his service requirements would be an economic revelation to him—a realization that he was a good cheese maker but you were the experts in transportation."

As to service, General Lasher referred to the Army's experience with cars of liquid oxygen moving from Chicago to Huntsville, Ala. "It moves rail-expedited," he said. "You will be shocked when I tell you how long it takes. . . . Sixth morning!"

Commenting on complaints he has heard about loss of steel tonnage, General Lasher noted that gondola ownership declined from 346,000 in 1945 to 277,000 in 1956—"and this in the face of a tremendously expanding steel industry."

Another of the general's questions was: "Are you sure you are actually operating more efficiently—or is it just more economically at the expense of service?"

Presiding at the dinner was the federation's chairman, James G. Lyne, editor of *Railway Age*. Edward O. Boshell, chairman of Westinghouse Air Brake Company, was toastmaster, and President William T. Faricy of the Association of American Railroads introduced General Lasher.

The federation's annual awards were presented by Chairman Lyne.



AWARD WINNERS: Maj. Gen. E. C. R. Lasher, executive director, Military Traffic Management Agency (left), U.S. Army and James G. Lyne, FRP chairman (right), admire the FRP "rail oscars" held in the usual order by Julius J. Alms, general passenger traffic manager of the Burlington (Passenger Progress Award); Charles W. Moore, executive assistant, public relations, Great Northern (Public Relations Award); and Robert Bedingfield, financial writer, New York Times (Journalism Award).





## 'Roger Williams' Is Ready to Go

A train consisting of six RDC cars modified for both diesel and third-rail operation has been completed by Budd. Built for the New Haven, it is the most recent contribution in the field of lightweight passenger equipment. Designed to make a run of 206 miles in 2 1/2 hours (suburban Boston to suburban New York), its diesel power plants provide 9 hp per ton.

**L**atest of the New Haven's lightweight passenger trains,\* the "Roger Williams" consists of two streamlined RDC head-end units with cab control stations (one at each end of the train) and four intermediate coach units without control stations. Of lightweight stainless steel construc-

tion with conventional 85-ft length and floor height, the cars have a low roof which accommodates an engine cooling fan and radiator enclosure.

This equipment is designed for 2 1/2-hr operation from Woodlawn, N. Y., to Route 128, near Boston, with 5 stops. The maximum allowable for

track speeds range up to 110 mph.

Each car is a complete operating unit with identical arrangement of equipments. Duplicate diesel and electric propulsion units and auxiliary Genemotors are installed at each end. Trainline control and indication is arranged for head-end operation.

### Amenities in the Passenger Section

The floor plan of each passenger section is identical except for reduced seating in the head-end units to provide the cab and food service area.

The No. 1 end of each car is the vestibule end, with the handbrake, conductor's valve, women's toilet, air

conditioning plenum, walk-in electric locker, underfloor air brake bay, and No. 1 diesel power plant enclosure.

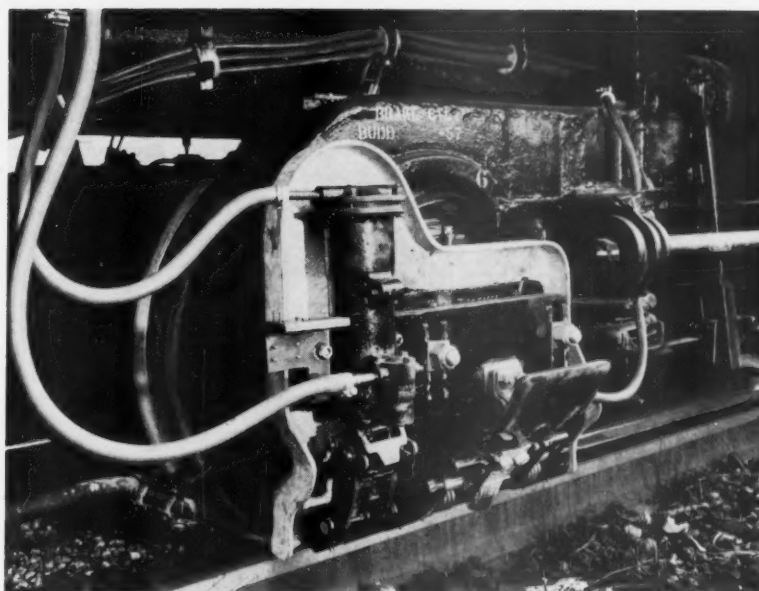
The No. 2 end is the blind end. In the head-end cars it is the cab and food service end. It also accommodates the men's toilet, water cooler, and overhead service water tanks. An aisle door communicates with the cab area of the head-end car.

Heywood-Wakefield rotating-reclining seats, with wing head rests, provide for 60 passengers in 2 head-end units and 76 passengers in 4 intermediate units, seating a total of 424 passengers.

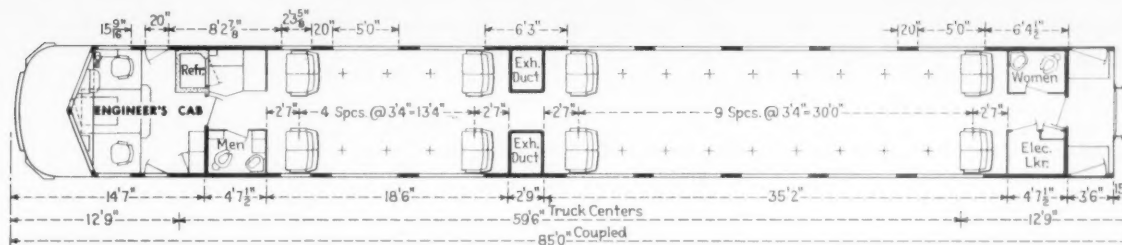
Interior paneling and ceilings, including the air distribution surface, are vinyl faced and a minimum of (Continued on page 40)

\* The Talgo-type "John Quincy Adams" and the "Train-X"-type "Dan'l Webster" began revenue service March 25 (Railway Age, March 25, p. 11).

**THIRD RAIL SHOE** assembly is mounted on inboard axle of General Steel Castings truck. Truck has SKF roller bearings, Standard Steel wheels and axles, Alco springs, and Fabreka sound-deadening pads.



◀ **A-UNIT RDC'S** are used at both ends. Intermediate cars have vestibule at one end, without operator's controls. Fluting on car sides is variation from standard Budd design, and cars are 6-in. lower overall than standard RDC's. Underbody equipment is covered by deep mesh skirts.



**END CAR** with cab seats 60 passengers and has Angelo Colonna food service area with refrigerator, beverage containers and work counter. Intermediate cars seat 70 pas-

sengers. Passenger seats in all cars are spaced on 40-in. centers. All cars have Morton vestibule curtains and Joy trainline jumpers. All of the cars are 85 ft long coupled.



▲ **ENGINE MAN'S CONTROL** on "Roger Williams" includes components standard on all RDC cars, and in addition provides for operation of the train while it is being driven by the electric traction motors.

**AIRPLANE STYLE INTERIORS** are decorated in vivid reds, blues and grays. Cars have Adlake breather-type sash units. The Plymetal and aluminum wall and ceiling linings are faced with U.S. Rubber vinyl, the plywood floor is covered with Dexolium, and the body is insulated throughout with Gustin-Bacon Ultralite. ▶



(Continued from page 38)

bright trim is used to reduce maintenance. Luggage racks are polished aluminum.

Multivalent air distributors, with built-in aisle spot lights, are continuous along the center of the ceiling

between the lower end ceiling areas.

Safety fluorescent cove lighting, arranged for operation on unregulated voltage and non-thermal type starters, is installed along each side of the air distributor so that the lamps are masked and diffused by the ceiling arrangement.

Individual Safety reading lights, recessed into the frieze panel, are mounted on an escutcheon plate accommodating four lamps arranged for forward or reverse seat position lighting. A locker switch is provided to select either forward or reverse seat lights to limit the load.

## Arrangement of Equipment in the Cab

The cab has an entrance door on each side, crank-down side windows, a control station shelf, elevated platforms with adjustable operator's seat, a hinged panel to provide a level floor between platforms, and a normal level aisle between the side entrance doors.

Structural bulkheads separate the cab from the front end and from the coach section. The cab roof, windshield, and forward compartment hood are sheathed with a one-piece molded Fiberglas-reinforced polyester resin envelope, superimposed on the structural end framing.

The engineer's station is provided with an electropneumatic straight air brake M38C valve, gages, etc., a master controller, and a speedometer. A panel controls electropneumatic brake, third rail shoe down and up, diesel-electric selection, cab start-stop, all engines run, and all diesels stop. It is fitted with electric position pilot lights. Other cab elements are a control panel for lights, defroster, and

signal buzzer; a cab heater-blower; and control valves for horn, bell, windshield wipers, acknowledging, safety control suppression, and emergency fuel cutout.

The fireman's station is provided with repeat pilot light indications of all engines run, all engines stop, and electric position. In addition, this station is provided with separate control for defroster, windshield wiper, cab heater-blower, a conductor's emergency valve, and a cab signal change-over switch.

Cab signal 4-aspect indicator and whistle valve assemblies are installed at the center windshield post for visibility from both stations.

Defrosting of 9/16-in. thick laminated windshields is accomplished by electrically conductive coating on the inner surface of each 1/4-in. thick semitempered glass on each side of a 1/16-in. thick vinyl bonding layer.

Air brake equipment is installed on the bulkhead in front of the engineer's station and includes electro-

pneumatic master controller and condensers, K-1 valve, C-2 valve and air-operated diaphragm cutout cock.

GRS cab signal equipment is installed on the bulkhead in front of the fireman's station and includes amplifier cabinet, motor generator set, circuit-breaker, and cutout switch.

Trainline jumper receptacle housings are installed in each side of the pilot, and at each side of each connecting end of all units. A 12-contact and 16-contact receptacle of molded insert construction is provided in each housing. Removable 12-conductor and 16-conductor molded jumper assemblies may be plugged into the receptacles if the head-end unit is coupled.

Headlights are recessed into the end nose section above an emergency end door and may be serviced from the forward compartment.

Combination number light, classification light and marker light fixtures are installed at each side of the nose section.

## What Are the Performance Characteristics?

Diesel performance provides 9 hp per ton based on 100 per cent of engine output shaft power available for traction and 62.5 tons average light weight of cars. Performance is only slightly affected by loss of one power plant.

Initial acceleration is 1.18 mph per sec and speed time characteristics on

0.0 per cent grade are 0-65 mph in 2 min; 0-100 mph in 5½ min; 0-110 in 7 min. Governed speed is 112 mph.

Diesel operation at 110 mph requires only 75 per cent of total power and cruising speed of 100 mph is achieved with 60 per cent of power available. Operation with 75 per cent of power units is allowable and emer-

gency completion of the run is permissible with 50 per cent.

Straight electric performance has been limited to minimize the control and equipment because it is required in only a small part of the operation. It provides 5.0 hp per ton based on short time overload operation and light weight of the cars.

## Power Equipment and Control

The diesel power plant assembly on each car is mounted underfloor in a protective casing and is readily removable.

Each power plant consists of a General Motors six-cylinder engine, rated 300 hp at 2,000 rpm, and combined Allison torque-converter-reverser-gear assembly with a torque multiplication ratio of 3.6:1. The

Spicer output shaft drives a gear unit of 1.8:1 ratio, mounted on the inboard axle of the cast steel, outboard swing hanger, all coil spring truck. A splined universal joint drive shaft is provided to compensate for truck motion. All engine, transmission, and protective controls and engine and torque converter oil supply are self-contained.

Electric propulsion motor-gear box assemblies are nose-supported on the outboard axle of each truck. The General Electric traction motors are series-wound for 300 volts and rated 100 hp at the one-hour rating. The motors are series connected for 600-volt operation and equipped with special brushes to protect the commutator during extended diesel opera-



tion. The gear box ratio is 2.72:1 and incorporates a ground brush for journal bearing protection.

Flashboards of molded Fiberglas reinforced polyester construction resiliently support the third rail shoe and operating mechanism from one journal box of each truck, except that no shoe is installed on the cab end truck under the side entrance doors, and two shoes are installed at the opposite truck.

Two 64-volt auxiliary Genemotors supply 64-volt electric power on each car. Each is arranged for clutch drive from the engine front crank shaft or motor drive from the third rail supply. Each Genemotor is rated 22½ kw when motor-driven, and 20 kw when engine-driven.

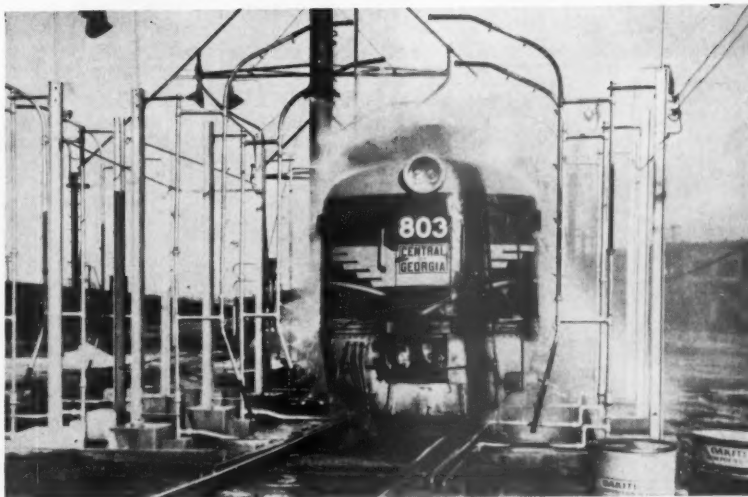
There is a 25-kw Westinghouse immersion heater in each engine water tank for maintaining engine temperature when diesels are shut down. The heaters also supply car heat by car heat pump circulation of the engine cooling system water during either diesel or electric operation. A separate thermostatically controlled circulating pump is provided for overhead heat from the No. 1 engine tank and floor heat from the No. 2 engine tank, to maintain independence of the cooling water for each engine.

#### **Fuel for Round Trip**

Antifreeze protection, and charging facilities for use during stand-by, include Vapor trainline steam couplers and Pyle-National d-c charging receptacles, immersion heater and Genemotor operation, and when required, the use of diesel engine cooling system water heating and generators. Engine starting is by Exide 284 amp-hr batteries.

Fuel tank capacity of 280 gallons is considerably in excess of the requirement for Boston-New York round-trip operation. Calculated fuel consumption, with 12 stops, averages 2.6 miles per gal for the round trip.

Electropneumatic straight air with Westinghouse HSC high-speed car brake equipment is complemented by Budd disc brake and Budd Rolokron anti-wheel slide protection. This equipment allows unrestricted use of maximum straight air or emergency braking for rapid smooth deceleration. Automatic sand application control is incorporated to support the high adhesion requirements and is also effective during traction wheel slip.



## **Spray washing originated by Oakite contributes to low-cost end results**

Cleaning by the best methods and with quality materials costs less in the end every time.

In washing diesel units and passenger car surfaces and running gear, that means a material such as Oakite Compound No. 88 and pressure-spray cleaning and rinsing—the basic system which *Oakite pioneered over 10 years ago* and which has since become standard practice.

While a variety of these systems is now available, Oakite supplies blueprints and specifications to permit "custom" fabrication of spray equipment in railroads' own shops.

To make sure *your* pressure washing of equipment ends up at lowest possible cost, take advantage of the safety, efficiency, and streak-free results provided by Oakite cleaning compounds. So many leading roads already are. For more information, drawings or data write OAKITE PRODUCTS, INC., 46 Rector Street, N. Y. 6, N. Y.



*... gives you the important advantage*  
**LOW-COST END RESULTS**

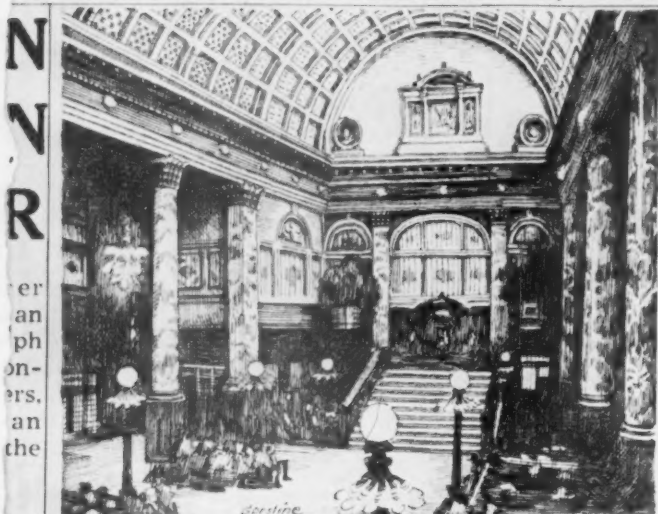


Export Division Cable Address: Oakite

### **RAILROAD DIVISION**



APRIL 7, 1901



## DIFFICULT VENTILATION PROBLEM SOLVED IN NEW PITTSBURGH DEPOT

NEW YORK, April 7, 1901. The well-known character of the Pittsburgh atmosphere makes the preservation of cleanliness in connection with adequate ventilation a difficult matter in the new Pittsburgh & Lake Erie Depot. However, the problem has been overcome in the modern building by a unique device.

The windows of the waiting rooms and offices are airtight and fixed. Air is drawn from the top of the building through a shaft to the base-

ment, where it is washed, dried, heated in winter, or cooled in summer, and then blown through the building. This system is especially effective in preventing unwholesome odors in every part of the building. Electric suction pumps withdraw the foul air into the outer atmosphere.

Electric power, electric light, heat and ventilation are supplied by a powerhouse which is connected to the

Even in the days when a ventilation system was considered a unique device, Graybar was active in furnishing railroads with "everything electrical". Today, Graybar catalogs list over 100,000 electrical items for ventilation, communications, lighting, wiring and power—all quickly available from over 130 Graybar locations in principal cities from coast-to-coast. Check your Railroad Pocket List for the one most convenient to you. An experienced Graybar Railroad representative will be glad to provide all the information and assistance you may require.

100,000 electrical items are distributed throughout the nation...



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GRAYBAR ELECTRIC COMPANY, 420 LEXINGTON AVENUE, NEW YORK 17, N. Y.  
OFFICES AND WAREHOUSES IN OVER 130 PRINCIPAL CITIES

## Control of 9 Interlockings Consolidated on New Haven

The New Haven recently completed a project at New Haven involving consolidation of the control of nine interlockings within a radius of 10 miles. The interlockings include 47 single switches, 58 crossovers and 202 signals, all controlled by the new "UR" Union route control machine.

Average daily traffic through the interlockings involves approximately 1,750 movements, including 1,600 switching moves, 50 freights, 70 through passenger trains and 30 passenger trains that originate or terminate at New Haven. The project was described in *Railway Age*, Feb. 27, 1956, p. 26.

## Organizations

### Purchasing Problems to Be Discussed by NY RR Club

A panel discussion of railroad purchasing problems and practices will feature the April 18 meeting of the New York Railroad Club. The meeting, to begin at 8:15 p.m. in the Hotel Commodore, will be preceded by a reception and dinner. Moderator of the panel discussion will be C. H. Beard, general traffic manager, Union Carbide & Carbon Corp.

Representing railroads on the panel will be J. S. Fair, Jr., general purchasing agent, Pennsylvania; C. H. McGill, chief of operations, New Haven; and F. W. Pettit, general purchasing agent, Western Maryland. Supply company representatives will be E. B. Carpenter, vice-president, ACF Industries; A. H. Smith, executive vice-president, Kerite Company; and W. J. Stephens, assistant general manager of sales, Bethlehem Steel Corporation.

### First ASME Forum on Railroad Problems

A Railroad Division Technical Conference, intended to be the first of a series where advanced thinking on railroad problems can be considered, is to be held at the Sheraton Hotel, Chicago, April 25-26.

On Thursday morning, April 25, there will be a symposium on use of economy-type diesel fuels in locomotives. At the afternoon session the proper test techniques and equipment used in diesel engine and locomotive maintenance will be discussed.

Performance standards and recent developments in roller-bearing freight trucks, draft gears, and piggyback equipment will be reviewed Friday morning April 26. The afternoon program will include papers on corrosion

prevention in railroad equipment and the expanding use of aluminum in railroad cars.

J. P. Kiley, president of the Milwaukee, will be the speaker at a luncheon on the 25th.

**Communications Section, AAR.**—J. A. Parkinson, general superintendent communications, Santa Fe, has been elected chairman, and H. W. Burwell, telephone engineer, Louisville & Nashville, vice-chairman. The 33rd annual meeting will be held in the Royal York Hotel, Toronto, Ont., May 21-23.

**Pacific Railway Club.**—"A Security Analyst's View of Railroads" will be the subject of a dinner meeting in the Rodger Young Auditorium, Los Angeles, at 6:45 p.m., April 18. Speakers will be Herbert F. Wyeth, director of transportation research, Shearson, Hammill & Co., and John Leeds Kerr, president, Kerr & Company.

## Financial

### Dividends Declared

**ATCHISON, TOPEKA & SANTA FE.**—30¢, quarterly, increase, payable June 1 to holders of record April 26.

**BESSEMER & LAKE ERIE.**—convertible preferred, 75¢, semiannual, paid April 1 to holders of record March 15.

**BOSTON & ALBANY.**—\$2, paid March 30 to holders of record March 18.

**CAROLINA, CLINCHFIELD & OHIO.**—\$1.25, quarterly, payable April 19 to holders of record April 9.

**CHICAGO & EASTERN ILLINOIS.**—common, 25¢, quarterly, and 25¢, extra; class A, \$2, all paid March 30 to holders of record March 19.

**CHICAGO GREAT WESTERN.**—common, 35¢, quarterly; 5% preferred, 62½¢, quarterly, both paid April 5 to holders of record March 25.

**CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.**—37½¢, quarterly, payable April 25, July 25, October 24 and December 24, to holders of record April 5, July 5, October 4 and December 6, respectively.

**ELMIRA & WILLIAMSPORT.**—\$1.19, semiannual, payable May 1 to holders of record April 19.

**KALAMAZOO, ALLEGAN & GRAND RAPIDS.**—\$2.90, semiannual, paid April 1 to holders of record March 15.

**LAKE SUPERIOR & ISHPEMING.**—35¢, quarterly, payable April 15 to holders of record April 1.

**MAHONING COAL.**—\$7.50, paid April 1 to holders of record March 27.

**NORFOLK & WESTERN.**—4% adjustment preferred, 25¢, quarterly, payable May 10 to holders of record April 11.

**NORTHERN PACIFIC.**—45¢ quarterly, payable April 26 to holders of record April 5.

**PHILADELPHIA & TRENTON.**—\$2.50, quarterly, payable April 10 to holders of record April 1.

**PITTSBURGH & LAKE ERIE.**—\$1.50, quarterly, payable April 15 to holders of record April 5.

**PROVIDENCE & WORCESTER.**—\$2.50, quarterly, paid April 1 to holders of record March 18.

**READING.**—50¢, quarterly, payable May 9 to holders of record April 11.

**RICHMOND, FREDERICKSBURG & POTOMAC.**—common, \$1, quarterly; dividend obligation, \$1, quarterly, both paid April 1 to holders of record March 20.



### 'Test Ride' Inspection Plan Pays Triple Dividends

The Southern Pacific's Yuma Division is tough to maintain because of wind-blown desert sand. However, a new "test ride" inspection plan—calling for small groups of section foremen and roadmasters to ride the main line between Yuma, Ariz., and Alhambra, Cal., in Division Superintendent William E. Eastman's business car—is paying off in smoother running for trains. On the ride, foremen watch from the rear of the car and note any rough-riding spots. They also can

compare maintenance of their sections and other sections. The plan also has encouraged teamwork among section bosses and a personal exchange of time- and money-saving ideas. Shown riding with Mr. Eastman (extreme right, above), are, in the usual order: John Marsh, Colton roadmaster; S. J. McCauley, division engineer; J. H. Arroyo, El Casco section foreman; Leslie E. Skinner, Thousand Palms section foreman; and K. R. Lohr, Pomona roadmaster.

**ST. LOUIS SOUTHWESTERN.**—\$5, annual, paid April 1 to holders of record March 25.

**SOUTHERN.**—Mobile & Ohio stock trust, \$2, semiannual, paid April 1 to holders of record March 27.

**TEXAS & PACIFIC.**—common \$1.25, quarterly; 5% preferred, \$1.25, quarterly, both paid March 29 to holders of record March 25.

**VERMONT & MASSACHUSETTS.**—\$3, semiannual, payable April 8 to holders of record March 29.

**WHEELING & LAKE ERIE.**—common, \$1.43¾, quarterly; 4% prior lien, \$1, quarterly, both payable May 1 to holders of record April 12.

### Authorizations

**MIDLAND CONTINENTAL.**—To issue 9,000 shares of common stock without par value and \$624,000 of general and refunding mortgage 5% series A bonds, to be exchanged for \$1,750,000, of applicant's outstanding common stock, \$1,750,000 of its outstanding preferred stock, and \$1,750,000 of its outstanding first mortgage 5% bonds, plus accrued and unpaid interest thereon.

### Applications

**DENVER & RIO GRANDE WESTERN.**—To assume liability for \$4,800,000 of equipment trust certificates to finance in part the acquisition of equipment, listed below, which is expected to cost a total of \$6,458,080.

Description and Builder	Estimated Unit Cost
10 1,750-hp. diesel-electric locomotives (Electro-Motive Division, General Motors Corporation) .....	\$231,800
200 50-ton box cars (Pullman-Standard Car Manufacturing Company) .....	9,475
200 70-ton hopper cars (Bethlehem Steel Company) .....	8,654
50 70-ton covered hopper cars (ACF Industries, Inc.) .....	10,260

The certificates would mature in 30 semiannual installments of \$160,000 each, beginning May 1. They would be sold by competitive bids which would fix the interest rate.

**MINNEAPOLIS & ST. LOUIS.**—To assume liability for \$2,700,000 of equipment trust certificates to finance in part the purchase of 380 freight cars, including: 250 hopper cars from ACF Industries at an estimated unit cost of \$7,817; 100 covered hoppers from Pullman-Standard Car Manufacturing Company at \$8,694; and 30 insulated and compartmentalized box cars from Pacific Car & Foundry Co. at \$16,205. The certificates would mature in 15 annual installments of \$180,000 each, beginning May 10, 1958. They would be sold by competitive bids which would fix the interest rate.

**MONON.**—To assume liability for \$1,050,000 of equipment trust certificates to finance in part the purchase, from Pullman-Standard Car Manufacturing Company of 174 box cars—124 at an estimated unit cost of \$7,300 and 50 at \$8,200. The certificates would mature in 15 annual installments of \$70,000 each, beginning November 15, 1957. They have been sold, subject to commission approval, to a syndicate headed by Halsey, Stuart & Co., which submitted the most favorable bid—99.15 with the interest rate at 4¼%.

**NORFOLK & WESTERN.**—To assume liability for \$6,600,000 of equipment trust certificates, third and final installment of a proposed \$14,160,000 issue, the whole of which is financing acquisition of 98 diesel locomotives at an estimated total cost of \$18,909,000 (Railway Age, Jan. 7, p. 38). The certificates would mature in 30 semiannual installments of \$220,000 each, beginning August 1. They would be sold by competitive bids which would fix the interest rate.

**SPOKANE, PORTLAND & SEATTLE.**—To assume liability for \$3,690,000 of equipment trust certificates to finance in part the acquisition of 500 50-ton box cars, which would be built in Great Northern shops at an estimated unit cost of \$9,238. The estimated total cost is \$4,619,000. The certificates would mature in 30 semiannual installments of \$123,000 each, beginning October 1. They would be sold by competitive bids which would fix the interest rate.



# People in the News

**ASSOCIATION OF AMERICAN RAILROADS.**—On April 1, **Walter J. Little**, former general counsel of the California Railroad Association, took over the new vice-presidency of the AAR, with duties primarily in the field of federal legislation. A biography of Mr. Little was published in *Railway Age*, Mar. 25, p. 17.

**BALTIMORE & OHIO.**—**Charles E. Zeman**, senior engineer, Baltimore, appointed regional engineer, B&O and **B&O Chicago Terminal**, Chicago, succeeding **John S. Knight**, retired.

**P. B. Jones**, division freight agent, Vincennes, Ind., transferred to Louisville, Ky., succeeding **L. E. C. Roehrig**, retired. **L. J. Menke**, district freight representative, New Orleans, promoted to division freight agent, Vincennes.

**E. M. Talbot**, assistant to comptroller, Baltimore, appointed assistant comptroller, in charge of disbursement accounts, succeeding **C. E. Cohn**, retired.

**C. M. Wrightson** appointed manager highway transportation and warehouses, Baltimore, succeeding **M. F. Steinberger**, retired. Mr. Wrightson was formerly manager and treasurer of Camden Warehouse and Camden Warehouses truck operation.

**BRITISH COLUMBIA ELECTRIC.**—Offices are now at 970 Burrard street, Vancouver 1, B. C.

**CANADIAN NATIONAL.**—**C. I. Biegler**, operation trainee, Central region, appointed acting district engineer, Southern Ontario district, Toronto, succeeding **W. B. Jackson**, temporarily assigned to special duties.

**G. Carleton Connors** appointed supervisor of freight handling and freight claim prevention, Atlantic region, Moncton, N.B.

**Murray Lee Milner**, regional supervisor, wage bureau, appointed assistant to vice-president and general manager, Atlantic region, Moncton, N.B., succeeding **S. J. Lockhart**, retired (*Railway Age*, Mar. 18, p. 53).

**CANADIAN PACIFIC.**—**H. E. Powell**, assistant superintendent, West St. John, N.B., appointed acting superintendent, Brownville division, Brownville, Me. **J. G. Dow** named acting assistant superintendent, St. John.

**James Masters**, senior member, Baring Brothers & Co., Ltd., London, England, appointed assistant vice-president, finance, CPR, Montreal, effective April 1.

**CHESAPEAKE & OHIO.**—**Frank E. Knotts**, traveling passenger agent, New York, named district passenger agent there, succeeding **William P. Walker**, retired.

**J. M. Pitchford**, assistant superintendent, Huntington (W.Va.) division, appointed

superintendent of that division, succeeding **Harry Kindt**, who retired April 1. **A. N. Garrett, Jr.**, trainmaster, Mountain Subdivision, Charlottesville, Va., succeeds Mr. Pitchford and is succeeded by **L. H. Madison**, who will have headquarters at Clifton Forge, Va. **H. H. Talbert** appointed terminal trainmaster, Clifton Forge, succeeding Mr. Madison.

**W. M. Wright**, boat inspector, Newport News, Va., appointed marine superintendent there, succeeding **W. T. Newell**, who retired March 31.

**ESSEX TERMINAL.**—**D. K. Douglas**, assistant secretary, Walkerville, Ont., Can., appointed treasurer and auditor, succeeding the late **J. W. Holzhauser**.

**FRISCO.**—**V. B. Gleaves**, assistant to general manager, appointed to newly created position of director, methods and procedures. **E. M. Peak**, assistant to general auditor, named manager, data processing, and **J. F. Pearson**, special representative, appointed assistant to manager, data processing.

**LACKAWANNA.**—**Augustus Nasmith**, general attorney, New York, promoted to general solicitor, succeeding **John F. Reilly**, resigned.

**LOUISVILLE & NASHVILLE.**—**M. W. Cox**, assistant division engineer, Evansville, Ind., appointed division engineer, Cumberland Valley division, Corbin, Ky., succeeding the late **S. Williamson**.

**MISSOURI PACIFIC.**—**Harold W. Kassling**, general freight agent, Houston, Tex., named executive general agent, Harlingen, Tex., to replace the late **J. J. Mulholland**, (*Railway Age*, Jan. 28, p. 41). **Gus O. Oliver**, general agent, Fort Worth, Tex., transferred to Pittsburgh, Pa., succeeding the late **V. C. Fagan**. Mr. Oliver's successor is **Elmer R. Sauerberg**, general agent, Chicago. **John C. Selover** appointed general freight agent, Houston, succeeding Mr. Kassling.

**R. P. Hart**, vice-president—operation, and **C. D. Peet**, vice-president—finance and accounting, promoted to vice-presidents on the executive staff, St. Louis, effective April 1. **L. A. Gregory**, assistant vice-president—operation, St. Louis, succeeds Mr. Hart. **E. C. Sheffield**, general manager, Gulf district, Palestine, Tex., succeeds Mr. Gregory. **V. A. Gordon**, assistant general manager, Gulf district, replaces Mr. Sheffield. **E. W. Runge**, retaining his present title of controller, succeeds Mr. Peet as head of the accounting department.

**NATIONAL MEDIATION BOARD.**—The Senate has confirmed President Eisenhower's reappointment of **Robert O. Boyd** for a new three-year term expiring February 1, 1960. Mr. Boyd has been a member of NMB since 1954.

**NEW YORK CENTRAL.**—**A. W. Laskoske**, assistant vice-president—operation, New York, appointed vice-president and general manager of the NYC's affiliated **Indiana Harbor Belt** and **Chicago River & Indiana** at Gibson, Ind. (P.O. Hammond, Ind.). **W. F. Davis**, general manager, IHB and CR&I, Hammond, named superintendent, NYC's Canada division, St. Thomas, Ont., replacing **William R. Horton**, granted leave of absence because of ill health. **R. S. Reuss**, assistant superintendent, New York, appointed administrative assistant to vice-president—



Augustus Nasmith  
DL&W



Clarence O. Bunce  
AT&SF

operation. **G. E. McHugh**, trainmaster, New York, named assistant superintendent, Electric-Harlem-Putnam division, Grand Central Terminal, New York. **J. N. Page** appointed terminal superintendent, East Buffalo (N.Y.) yard. **D. P. Dwyer**, **R. H. Sweitzer**, **L. M. Lawrence** and **M. Grahovac** named terminal trainmasters, East Buffalo yard.

**George H. Albach**, comptroller, New York, retired April 1.

**G. S. Wooding**, division engineer, Erie, Pa., transferred to Buffalo (N.Y.) division, succeeding **B. J. Gordon**, transferred.

**D. A. Kubelsky** appointed director of industrial engineering, New York. The titles of chief industrial engineer and assistant chief industrial engineer discontinued. **J. H. MacKinnon** named assistant industrial engineer, New York.

**John H. Sawyer**, assistant signal engineer, Syracuse, N.Y., appointed district signal engineer, Cleveland, succeeding **C. F. Brooks**, retired.

**Samuel Smyth** named district personnel assistant, Syracuse.

**R. F. Lawson** appointed district methods engineer; **L. D. Cooper**, district materials engineer, and **F. A. Schneider**, district equipment engineer, all at Indianapolis, Ind.

**Douglass Campbell**, superintendent, Cleveland—Erie division, Cleveland, appointed to new position of executive representative, Buffalo, N.Y. **Donald B. Ingold**, superintendent, West and Western divisions, Chicago, succeeds Mr. Campbell at Cleveland. **T. E. Reynolds**, assistant superintendent, West and Western divisions, Chicago, succeeds Mr. Ingold. **Robert C. Marquis**, assistant manager of transportation, New York, succeeds Mr. Reynolds.

**SANTA FE.**—**Clarence O. Bunce**, general freight and passenger agent, Phoenix, Ariz., appointed freight traffic manager, Chicago, to succeed **Richard J. Ward**, promoted to freight traffic manager, Los Angeles, replacing the late **Robert S. Hirsch**. **R. E. Couden**, division freight agent, Oklahoma City, promoted to industrial agent, Galveston, Tex. **T. A. Blaske**, traveling freight agent, Tulsa, Okla., succeeds Mr. Couden.

## OBITUARY

**R. M. Hishew**, 70, retired freight traffic manager of the **Santa Fe**, died March 28 at Kansas City, Mo.

**O. M. Oliver**, general passenger agent, **Panhandle & Santa Fe**, Amarillo, Tex., died February 23.

**M. E. Sparks**, whose appointment as safety supervisor, Western and Colorado divisions, **Santa Fe**, La Junta, Colo., was noted in *Railway Age*, Feb. 4, p. 45, died February 10 at Topeka, Kan.



James Masters  
CPR



Walter J. Little  
AAR

# CANADIAN PACIFIC RAILWAY COMPANY

## Seventy-Sixth Annual Report of the Directors to the Shareholders

(abridged)

### Highlights

Year's Results	1956	1955*	Increase or Decrease
Railway Revenue .....	\$ 505,262,393	\$ 448,361,441	\$56,900,952
Railway Expenses .....	463,926,566	411,233,650	52,692,916
Net Earnings .....	41,335,827	37,127,791	4,208,036
Ratio Railway Expenses to Railway Revenue .....	91.8%	91.7%	0.1%
Other Income .....	\$ 30,034,463	\$ 27,777,820	\$ 2,256,643
Interest and Rental Charges .....	15,752,302	16,188,820	436,518
Dividends—Preference Stock .....	3,079,820	3,136,227	56,407
—Ordinary Stock .....	24,379,013	20,792,013	3,587,000
Balance for Modernization and Other Corporate Purposes .....	\$ 28,159,155	24,788,551	3,370,604

Year-end Position	1956	1955*	Increase or Decrease
Property Investment .....	\$2,131,967,133	\$2,061,033,838	\$70,933,295
Other Investments .....	151,903,602	152,606,292	702,690
Funded Debt .....	156,085,000	169,651,000	13,566,000
Reserves .....	891,654,110	848,452,406	43,201,704
Working Capital .....	114,080,546	117,490,662	3,410,116
Traffic			
Tons of Revenue Freight Carried .....	65,838,251	58,490,900	7,347,351
Revenue Passengers Carried .....	8,906,288	9,585,468	679,180
Revenue per Ton Mile of Freight .....	1.39c	1.43c	0.04c
Revenue per Passenger Mile .....	2.89c	2.81c	0.08c
Employees			
Employees, All Services .....	90,499	86,789	3,710
Total Payrolls .....	\$ 322,679,601	\$ 293,018,422	\$29,661,179
Average Annual Wage .....	\$ 3,566	\$ 3,376	\$ 190

\*Restated, for comparative purposes, to reflect transfers and adjustments made in accounts as of January 1, 1956.

Your Directors have the honour to report the results and developments of the past year.

The year 1956 was outstanding in the development of Canada. The volume of freight service performed by your railway, measured in ton miles, moved upward for the third successive year and exceeded the 1955 volume by 18%. The general upsurge in construction activity was marked. Associated with the building of western oil and gas pipelines was a rise in manufactured iron and steel products. A decided improvement in grain exports resulted in a substantial increase in the movement of grain and grain products.

Railway revenue, which for the first time exceeded the half-billion dollar mark, was 13% higher than in 1955 and 7% above 1953, the previous record year. Costs, however, increased substantially and as a consequence the improvement in net earnings was not as great as might have been expected. The return earned on railway net investment was only 3.15%.

Settlements providing for progressive wage increases and other benefits were made with all major groups of employees. To meet the cost of these settlements and the effect on material prices of steadily mounting inflation, your Company on May 15 joined with other railways in Canada in a request to the Board of Transport Commissioners for an immediate increase of 15% in the general level of freight rates excepting statutory grain rates and rates which are related to those in effect in the United States. The Board granted an interim increase of 7% which became effective July 3, and following hearings later in the year, granted a further 4% interim increase effective January 1, 1957. Judgment on the balance of the application was postponed pending further hearings. Rates on international and related traffic were increased by an average of approximately 5.5% effective March 7, and by approximately 5% effective December 28. The total addition to railway revenue from freight rate increases was \$12.0 million, an amount not sufficient to offset the impact of higher wage rates and material prices, which added \$16.2 million to operating expenses.

Other Income amounted to \$30.0 million, an increase of \$2.3 million over the comparable income for the previous year. Net income from petroleum rents, royalties, reservation fees, and land rents, formerly accounted for through Land Surplus Account and now included in Other Income, amounted to \$5.3 million after provision for applicable income taxes.

Net Income amounted to \$55.6 million, which, after providing for dividends of 4% on Preference Stock, regular dividends amounting to \$1.50 per share and an extra dividend of 25¢ per share on Ordinary Stock, left a balance of \$28.2 million available for modernization and other corporate purposes.

Capital expenditures for modernization and expansion and for replacements totalled \$107 million. Of this amount \$25 million was for the purchase of 113 diesel locomotive units as the change-over from steam operations was pressed forward.

As of January 1, 1956, in order to comply with the Uniform Classification of Accounts prescribed by the Board of Transport Commissioners for Canada, certain accounting transfers and adjustments have been made, and references to these are given in subsequent sections of the Report.

The Income and the Retained Income Accounts of your Company show the following results for the year ended December 31, 1956:

Income Account	
Railway Revenue .....	\$505,262,393
Railway Expenses .....	463,926,566
Net Earnings .....	\$ 41,335,827
Other Income .....	30,034,463
Fixed Charges .....	\$ 71,370,290
Net Income .....	15,752,302
Dividends:	
Preference Stock .....	\$ 3,079,820
Ordinary Stock .....	24,379,013
	27,458,833
Balance transferred to Retained Income Account	\$28,159,155
Retained Income Account	
Profit and Loss Balance, December 31, 1955 .....	\$314,929,852
Land Surplus, December 31, 1955 .....	101,685,263
Retained Income (Balance), January 1, 1956 .....	\$416,615,115
Balance of Income Account for the year ended December 31, 1956 .....	\$ 28,159,155
Net Proceeds from Sales of Lands and Townsites .....	6,473,631
Excess of considerations received for sales of properties over book values, and miscellaneous items .....	1,731,968
	36,364,754
Retained Income (Balance) December 31, 1956, as per Balance Sheet .....	\$452,979,869

(Advertisement)

### Railway Operations

Net railway earnings, at \$41.3 million, were \$4.2 million higher than in the previous year. The ratio of net to gross earnings was 8.2% as compared with 8.3% in 1955.

In conformity with the new Classification of Accounts, railway results now include those of leased Electric Lines, formerly accounted for through Other Income, but no longer include the results of Great Lakes Steamships, which are now accounted for in Other Income. The net effect of these changes on 1956 results was a transfer from Railway to Other Income of net earnings amounting to less than \$100,000.

Railway Revenue amounted to \$505 million. This was \$57 million higher than in 1955 and 7% above the previous record established in 1953. Freight revenue accounted for most of the increase over 1955, having risen \$55 million, or 15%—43 million as a result of increased traffic volume and \$12 million as a result of increases in freight rates.

Freight traffic volume measured in ton miles increased 4.7 billion, or 18%. The movement of low rated grain was 31% above that of 1955. There were marked increases in the movement of other agricultural products, coal, crude petroleum, lumber, timber and plywood, farm implements and tractors, machinery, pulpwood, paper, manufactured iron and steel products and other manufactured goods. There were a few decreases, including cement, coke, gasoline and other petroleum products. Owing to the greater increase in the movement of low rated grain as compared with other commodities, there was a decrease in the average revenue per ton mile.

Passenger traffic volume was down slightly. There was a decrease as a result of the unfavourable summer weather in Eastern Canada and there was a decrease in military traffic. Patronage of your transcontinental trains "The Canadian" and "The Dominion", however, continued to show improvement. Some unprofitable passenger train services were curtailed.

Express traffic volume was higher and some rates were increased. Expenses rose also, chiefly as a result of increases in wage rates. The net earnings of your Express Company, carried to railway earnings as compensation for the carriage of express traffic, were up 7%.

Railway Expenses amounted to \$464 million, an increase of \$53 million. The rise resulted from the expansion in traffic volume, from increases in wage rates, which added \$12.7 million to expenses and increases in material prices, which added \$3.5 million.

Higher charges to maintenance accounted for almost half of the increase in total expenses, road maintenance expenses having increased by 20% and equipment maintenance expenses by 12%.

Road maintenance expenses have heretofore included the cost of replacing ties, rails and other track elements. Capital account is now charged with the replacement of these elements and maintenance is charged with depreciation accruals to provide for the annual loss in service value. Such accruals totalled \$17.6 million for the year.

Equipment maintenance included the general repair of 424 steam locomotives, periodic repair of 321 diesel-electric units, the heavy repair of 35,855 freight cars, and the general repair of 639 passenger cars. Locomotive repair expense was higher as more diesel units came due for more extensive overhaul and a greater number of steam units was repaired to assist in handling the increase in traffic volume.

Transportation expenses increased by 9%, compared with an increase of 13% in transportation service gross ton miles. The ratio of transportation expenses to railway revenue, at 37.6%, again showed a decrease and was at its lowest point since 1945. About two-thirds of the total increase in gross ton miles in freight service was handled by diesel power. Although it was necessary to use the less efficient steam power for the remainder, gross ton miles per freight train hour increased from 34,421 to

36,136, continuing the trend of the previous six years. The proportion of total transportation work performed by diesel power in the year averaged 48% in freight service, 72% in passenger service and 68% in yard service.

### Other Income

Other Income, after income taxes, amounted to \$30.0 million. This was an increase of \$2.3 million over the previous year.

Net earnings of steamships were \$3.8 million, an increase of \$3.1 million. Freight revenue from your ocean steamships was substantially above that of 1955 owing to an increase in freight carryings, particularly of grain and flour, and to generally higher cargo rates. There was a rise in the volume of passenger traffic to which the entry into service of the "Empress of Britain" was a major contributing factor. Net earnings from coastal operations increased, owing mainly to an improvement in passenger revenue.

Net earnings of hotels, at \$802,000, decreased by \$455,000. There was a rise in revenue, but a greater increase in expenses resulted from changes in wage rates and working conditions.

Net earnings from communication services were \$2.8 million, a decrease of \$187,000. Gross revenue increased as a result of expanding leased wire business and an increase in the volume of telegraph message traffic, but increases in wage rates and material prices more than offset the improvement in revenue.

Dividend income was \$15.8 million, down \$93,000 from the previous year. Dividends from your holdings of the Capital Stock of The Consolidated Mining & Smelting Company of Canada, Limited, which were at the rate of \$1.65 per share out of earnings of \$1.83, amounted to \$13,880,625, as compared with dividends in 1955 at the rate of \$1.75 per share out of earnings of \$2.01, amounting to \$14,721,875. The decrease was largely offset by receipt of a dividend from your Air Lines and an increase in dividends from your United States subsidiaries.

Net income from petroleum rents, royalties, reservation fees, and land rents, before provision for income taxes, amounted to \$9.3 million, an increase of \$584,000. In previous years the proceeds from these sources were credited directly to Land Surplus Account. Royalties were received from crude oil production of 18.1 million barrels. The number of producing wells increased from 718 in 1955 to 765 in 1956.

Net income from interest, separately operated properties and miscellaneous sources amounted to \$6.9 million, an increase of \$464,000. There was an increase in interest from temporary cash investments and a decrease in interest from the Steamship Replacement Fund, which is now fully depleted.

### Fixed Charges

Fixed charges amounted to \$15.8 million, a decrease of \$437,000. The reduction resulted principally from the conversion into Ordinary Capital Stock of some of the outstanding collateral trust bonds and the redemption of equipment trust certificates.

### Net Income and Dividends

Net income after fixed charges amounted to \$55.6 million, \$6.9 million above that of 1955 restated on a comparable basis. After provision for dividends on Preference Stock, earnings available for dividends on Ordinary Stock and for reinvestment amounted to \$52.5 million. This was equal to \$3.76 per share on 13,949,169 shares of Ordinary Stock outstanding at the end of the year, compared with \$3.28 per share on 13,878,173 shares at the end of 1955.

Dividends were declared on Preference Stock at the same rate as

(Advertisement)



in 1955, comprising 2% paid August 1, 1956, and 2% paid February 1, 1957. Ordinary Stock dividends amounted to \$1.75 per share comprising a regular dividend of 75 cents paid August 1, 1956, and a regular dividend of 75 cents and an extra dividend of 25 cents paid February 28, 1957.

#### Land Transactions

The results of sales of lands and townsites are now accounted for as an item in Retained Income Account, instead of through Land Surplus Account as in former years. The net proceeds from sales in 1956 amounted to \$6.5 million, and an increase of \$1.8 million. Sales included 10,476 acres of farm lands and 24,083 acres of timber lands. Contracts involving 7,278 acres of land sold in prior years were cancelled.

#### Balance Sheet

As of January 1, 1956, concurrently with the adoption of depreciation accounting for track elements in accordance with the new Uniform Classification of Accounts, investment in ties, rails and other track elements was restated to the cost of property in service. The excess of this cost over the recorded investment was credited to depreciation reserves. Previously, renewals of track elements had been changed to expenses, thereby perpetuating recorded investment at the cost of the property when first installed.

The amount of donations and grants formerly deducted from property investment was transferred to the liabilities side of the Balance Sheet; investment in leased Electric Lines was transferred from the category Other Investments and is now included as a part of railway properties; and investment in Great Lakes Steamships, previously included in the property investment account Railway, Rolling Stock and Inland Steamships, was transferred to the property investment account Steamships. The caption of the account Railway, Rolling Stock and Inland Steamships has been changed to Road and Equipment, and that of the account Ocean and Coastal Steamships has been changed to Steamships.

The balances of Land Surplus and Profit and Loss were combined in a new account, Retained Income, which together with the various other items comprising the shareholders' interests in the Company, is now included under the heading Shareholders' Equity.

Total assets at the end of the year amounted to \$2.5 billion, an increase of \$89 million over the comparable figure for 1955.

The net addition to property investment during the year after retirements was \$71 million.

Preference Stock of Canadian Pacific Air Lines in the amount of \$4.7 million and Capital Stock of Canadian Pacific Transport Company in the amount of \$600,000 were acquired as repayment of advances.

Tax Equalization Reserve, recording the liability with respect to the deferment of income taxes through claiming capital cost allowances for tax payment purposes in excess of depreciation accruals charged income, increased by \$9.1 million.

#### Finance

Serial equipment trust certificates amounting to \$10,018,000 were discharged during the year, and \$1,764,000 of obligations maturing in 1957 were purchased and cancelled.

During the year \$1,749,000 Convertible Twenty Year 3½% Collateral Trust Bonds, \$14,000 Convertible Fifteen Year 3½% Collateral Trust Bonds, and \$21,000 Convertible Seventeen Year 4% Collateral Trust Bonds were converted into 70,996 shares of Ordinary Capital Stock.

The foregoing transactions resulted in a decrease of \$13,566,000 in funded debt, a decrease of \$2,140,800 in the amount of Consolidated Debenture Stock pledged as collateral, and an increase of \$1,774,900 in the amount of Ordinary Capital Stock outstanding.

During the year your Company acquired \$500,000, the total issue, of 4% First Mortgage Bonds of The Lindsay, Bobcaygeon and Pontypool Railway Company, due July 1, 2002. These bonds were surrendered for discharge of mortgage as a preliminary step towards the vesting of this subsidiary in your Company.

Arrangements were completed, prior to the close of the year, for the redemption on January 1, 1957, of £1,300,000 Atlantic and North-West Railway Company First Mortgage Redeemable Debenture Stock maturing on that date. The principal of that stock was guaranteed by your Company.

#### Pensions

Upon recommendations by the Pension Committee, your Directors approved certain changes in pension rules and allowances effective January 1, 1956.

Under the new rules, the factor to be applied to contributory years of service in determining the pension allowance was increased to 1¼ from 1½ for each year of service after January 1, 1937. The new rules also extend to those who were receiving less than the current minimum pension of \$60 per month an increase to that amount effective from February 1, 1956, until they reach 70 years of age when the pension will revert to its former amount, and provide for a survivor allowance for widows of former employees who retired prior to February 1, 1953, and died on or after February 1, 1956, in respect of whom a survivor allowance would not otherwise be payable. This survivor allowance ceases when the widow reaches the age of 70.

To provide for the cost of the increased benefits, employee contributions were increased from five percent to six percent of salary or wages, effective January 1, 1956.

Expenditures for pensions during the year amounted to \$20.3 million. This included the portion of current pensions paid, a contribution of \$6.4 million to the Pension Trust Fund, and levies in respect of employees covered by the United States Railroad Retirement Act.

#### Wage Negotiations

An agreement was concluded with the unions representing the non-operating employees on the basis of the report of the Conciliation Board to which the dispute had been referred at the beginning of the year. The agreement, covering a two-year period from January 1, 1956, provided for wage increases amounting in total to 11%, comprising 3% effective January 1, 1956, 3% April 1, 1956, 2% November 1, 1956, and 3% June 1, 1957, and provided for payment for two statutory holidays in addition to the five previously established, and health and welfare benefits to cost \$8.50 per employee per month, half to be paid by your Company and half by the employee.

Agreements were reached with the licensed and unlicensed personnel of the "Princess Helene" similar to that with the non-operating railway employees and effective to June 15, 1958.

An agreement was concluded with conductors, trainmen and yardmen effective to May 31, 1958, providing for wage increases amounting to 12%, comprising 7% effective April 1, 1956, and 5% June 1, 1957. The 7% increase included an amount of \$4.25 per month in lieu of health and welfare benefits. The regularly assigned yard switching crews covered by this agreement are to be paid for six statutory holidays.

Locomotive firemen and hostlers proposed a 25% increase in basic

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rates of pay and payment in yard service for eight statutory holidays, and your Company sought the right to operate diesel locomotives in freight and yard service without firemen. The dispute was referred to a Conciliation Board whose report, handed down on December 17, recommended that wages be increased by 7% effective April 1, 1956, to include \$4.25 per month in lieu of health and welfare benefits, and 5% effective June 1, 1957, that payment be made in yard service for six statutory holidays, and that diesel operations without firemen be permitted in freight and yard service, with provision of safeguards for the employment, earnings and security of firemen. Your Company accepted the report but it was rejected by the union and a strike of firemen ensued resulting in cessation of train operations from January 2, 1957, until January 11, 1957. Operations were resumed under an agreement which provided for wage increases and payment for six statutory holidays as recommended by the Conciliation Board, and a Royal Commission consisting of three judges was appointed to report on the necessity of using firemen on diesel locomotives in yard and freight service, and on certain other subsidiary issues.

Early in 1957, an agreement was concluded with locomotive engineers on the basis of the recommendations of a Conciliation Board to which the dispute had been referred providing for wage increases amounting to 12%, comprising 7% effective May 1, 1956, which also included \$4.25 per month in lieu of health and welfare benefits, and 5% June 1, 1957, and for payment to engineers in yard service for six statutory holidays. The agreement is effective to June 30, 1958.

#### Air Lines

Dividends received from your Air Lines amounted to \$459,000. Net profit for the year was \$525,000 compared with \$275,000 in 1955.

Revenue from domestic operations increased by 24% as a result of intensification of activity in Northern and Western Canada both by government and private industry. Traffic was stimulated by oil and mineral exploration and development, and a contract was entered into with a construction company providing for passenger courier service between northern radar stations. The charter cargo airlift to supply and service construction of the radar warning network tapered off after mid-year as the project neared completion.

International revenue increased 55%. The principal contributing factors were the operation for a full year of the Vancouver-Amsterdam and Toronto-Mexico City services inaugurated during 1955, extension of the South American service to link Buenos Aires by through connections with Toronto and the Orient, and an increase in the frequency of flights on most routes in response to expansion of the volume of traffic offering. Features of the year's operations were charter flights to Australia for the Olympic Games and between Vienna and Vancouver for transporting Hungarian refugees to Canada.

On order at the year end were eight DC-6B aircraft, four for delivery in 1957 and four in 1958, and five Bristol Britannia turbo-prop aircraft, four for delivery late in 1957 and one early in 1958.

#### Rates

Reference has been made earlier in this Report to the request of the railways in 1956 for an increase of 15% in the general level of freight rates and to the authorization by the Board of Transport Commissioners of general increases of 7% effective July 3 and 4% effective January 1, 1957. The latter increase was granted in an interim judgment of the Board dated December 28 which set forward for consideration early in 1957 the question of further relief.

Also referred to previously were increases averaging approximately 5.5% and 5% effective March 7 and December 28 respectively in rates on international, overhead and certain import and export traffic. Having been granted to railways in the United

States, these increases were made applicable to these classes of traffic in Canada by authority of the Board of Transport Commissioners.

Your Company continued to bid through negotiation of agreed charge contracts for a widening range of competitive traffic. Sixty-six such contracts were put into effect during 1956, the largest number in any one year, bringing to 137 the total number in effect at the year end.

Following the authorization of the general increase in rates effective July 3, negotiations were entered into with shippers for increases in rates specified in agreed charge contracts to which your Company is a party. A number of increases at varying rates were secured and negotiations for other increases were in progress at the end of the year.

Rates on telegraph message traffic interchanged between Canada and the United States were increased by 10%, effective September 24.

#### Services

The programme of dieselization for the improvement of efficiency of your railway operations was carried forward by the acquisition of 113 new diesel units comprising 99 road switchers for freight and passenger service and 14 yard switchers. A second stage of the diesel maintenance shop in Montreal, the first stage of which was built in 1955, was completed during the year.

New freight train cars to the number of 3,952, including 3,200 box cars, were placed in service. In addition, 985 automobile and refrigerator cars were modified to meet special requirements of shippers. A new passenger car repair shop was completed at Winnipeg.

Your rail diesel passenger car fleet was increased by 15 units, making a total of 31 units of this type of equipment in the inventory at the year end. Six new "Dayliner" services were commenced, including the international service between Montreal and Boston, bringing to 3,000 route miles the distance over which these trains were in operation. Frequency of service was increased on some routes already served by rail diesel cars.

New trackage constructed included 21.4 miles from Brocket to Drywood in Alberta to serve a new industrial development at the latter point. During the year 789 manufacturing, warehousing and distributing establishments were located along the lines of your railway, and to serve 190 of these, 53 miles of tracks were constructed.

Programmed replacement of track elements included the laying of 574 miles of new and relay rail, the installation of 1.9 million ties and the application of ballast to 565 miles of track. Automatic block signals were installed on 91 miles of track, bringing the total mileage so equipped to 3,130.

The tonnage of traffic carried in your trailer-on-flat-car services increased substantially over the previous year and forty-one flat cars were adapted to accommodate highway trailers. These services provide pick-up and delivery between Montreal and Toronto, Hamilton and London in Eastern Canada and coordinate your rail and highway operations between eleven principal points in Western Canada.

The provision of safeguards against injury and the elimination of hazards continue to be foremost considerations of your Company, and a third consecutive award for public safety activities was received from the National Safety Council in Chicago.

Your new flagship, the "Empress of Britain", entered service on April 20 and completed a successful first season, during which your ocean fleet carried a greater number of trans-Atlantic passengers than in any other post-war year. Your second new passenger-cargo liner, the "Empress of England", was near comple-

(Advertisement)

tion at the end of the year and will enter regular North Atlantic service in the spring of 1957.

In the fall of the year work was commenced on the 17-storey, 400-room addition to the Royal York Hotel being built to provide for convention traffic and the rapid growth of the Toronto area.

Early in December, your Company, jointly with Canadian National, participated in establishing the first International Teleprinter Exchange Service in Canada, which provides rapid and direct communication between subscribers in Canada and those in overseas countries. The television network service operated jointly with Canadian National was extended to Sherbrooke in Quebec and Wingham in Ontario, and construction was underway on an extension from Quebec City to serve Rimouski and Jonquiere.

#### Integrated Data Processing

The integrated data processing programme of your Company for mechanizing the handling of paper work, which was begun in 1955, passed from the planning to the implementation stage in 1956 with the installation of common language machines in yard offices, freight offices and district data centres. By the year end, the extensive communications network which links the I.D.P. system together was nearly completed, and mechanized reporting of data from field to Computer Centre at Montreal was in effect at more than fifty locations. A high speed electronic computer, equipped with memory core storage, was delivered in December. This is the first such installation in Canada.

#### Capital Appropriations

In anticipation of your confirmation, capital appropriations amounting to \$12 million, in addition to those approved at the last Annual Meeting, were authorized by your Directors during the year. These included \$2.2 million for construction of new industrial trackage, \$3 million for rail diesel cars, \$3 million for additions and replacements to communication facilities and \$750,000 for commencement of the extension to the Royal York Hotel.

Your approval will be requested also for capital appropriations for the year 1957 amounting to \$126.4 million.

#### Patrons, Officers and Employees

Your Directors again desire to express sincere appreciation to the many customers using Canadian Pacific services and to officers and employees for their part in maintaining the traditionally high standards of those services.

For the Directors,

N. R. Crump,  
President.

Montreal, March 11, 1957.

### Canadian Pacific Railway Company • General Balance Sheet, December 31, 1956

ASSETS		LIABILITIES	
<b>Property Investment:</b>		<b>Funded Debt</b> .....	\$156,085,000
Road and Equipment .....	\$1,612,809,458	<b>Perpetual 4% Consolidated Debenture</b>	
Improvements on Leased Property .....	215,855,014	Stock .....	\$ 415,775,988
Securities—Leased Railway Companies ..	93,203,654	Less: Pledged as collateral to bonds ..	123,227,100
Steamships .....	89,989,731		292,548,888
Hotel, Communication and Miscellaneous Properties .....	120,109,276		
	\$2,131,967,133	<b>Current Liabilities:</b>	
<b>Other Investments:</b>		Pay Rolls .....	\$ 9,902,094
Securities—Controlled Companies .....	\$ 86,213,286	Audited Vouchers .....	22,825,356
Miscellaneous Investments .....	34,254,256	Net Traffic Balances .....	3,007,377
Advances to Controlled and Other Companies .....	4,965,306	Miscellaneous Accounts Payable .....	18,339,276
Mortgages Collectible and Advances to Settlers .....	1,136,254	Accrued Fixed Charges .....	1,193,777
Deferred Payments on Lands and Townsites .....	4,226,652	Dividends Payable .....	15,906,420
Unsold Lands and Other Properties .....	7,919,308	Taxes Accrued .....	15,016,691
Insurance Fund .....	13,188,540	Other Current Liabilities .....	24,735,702
	151,903,602		110,926,693
<b>Current Assets:</b>		<b>Deferred Liabilities</b> .....	3,089,533
Cash .....	\$ 41,828,250	<b>Reserves and Unadjusted Credits:</b>	
Temporary Cash Investments .....	82,500,158	Depreciation Reserves .....	\$ 853,226,950
Special Deposits .....	4,875,132	Investment Reserves .....	770,201
Agents' and Conductors' Balances .....	26,097,376	Insurance Reserve .....	13,188,540
Miscellaneous Accounts Receivable .....	25,428,664	Contingent Reserves .....	4,118,419
Material and Supplies .....	44,277,659	Tax Equalization Reserve .....	20,350,000
	225,007,239	Unadjusted Credits .....	7,594,514
			899,248,624
<b>Unadjusted Debits:</b>		<b>Shareholders' Equity:</b>	
Insurance Prepaid .....	\$ 109,420	Ordinary Stock .....	\$ 348,729,225
Unamortized Discount on Bonds .....	3,601,493	Preference Stock—4% Non-cumulative ..	137,256,921
Other Unadjusted Debits .....	4,390,084	Premium on Capital and Debenture Stock ..	37,222,399
		Donations and Grants .....	78,891,819
	8,100,997	Retained Income (Balance) .....	452,979,869
	\$2,516,978,971		1,055,080,233
			\$2,516,978,971

S. J. W. LIDDY  
Comptroller

#### TO THE SHAREHOLDERS, CANADIAN PACIFIC RAILWAY COMPANY:

We have examined the above General Balance Sheet of the Canadian Pacific Railway Company as at December 31, 1956, and the related financial statement, and have obtained all the information and explanations we have required. Our examination included such tests of accounting records and other supporting evidence and such other procedures as we considered necessary in the circumstances.

In our opinion the General Balance Sheet and related financial statements are properly drawn up so as to present fairly the financial position of the Canadian Pacific Railway Company at December 31, 1956, and the results of its operations for the year then ended, according to the best of our information and the explanations given to us and as shown by the books of the Company.

Montreal, March 8, 1957

PRICE WATERHOUSE & CO.  
Chartered Accountants

(Advertisement)



## Current Publications

### PERIODICAL ARTICLES

**RAILS THRIVE—THEIR STOCKS SAG.** *Business Week*, Mar. 23, 1957, pp. 101-106. McGraw-Hill Publishing Company, 330 W. 42nd. st., New York 36. Limited supply of tear sheets available free.

Investors and traders fear the pressure of costs, though gross revenues and earnings are still good.

### FROM THE MANUFACTURERS

**ELECTRIC HEATERS AND HEATING DEVICES 1957 (GEC-1005H).** 72 pages. General Electric Company, Dept. RA, Schenectady 5, N.Y.

Includes data, specifications, operating information, and manufacturer's recommended list prices on standard GE heaters and heating devices, including immersion, strip, cartridge, tubular, finned tubular, and railroad switch heaters; unit heaters, soldering irons, soft metal, melting pots, oven equipment, and control. A 16-page power requirements section shows short and long form calculations for heating applications. Describes also new ceramic-to-metal and plastic resin hermetic seals.

**WROUGHT IRON FOR RAILROADS.** 36 pages. A. M. Byers Company, Dept. RA, P.O. Box 1076, Pittsburgh 30.

Highlights railroad service for wrought iron, with illustrations of outstanding mechanical and engineering applications, including air-brake and steam piping; car retarder systems; freight classification yard, diesel facility, building and sprinkler piping, radiant heating; snow melting; bright pier protection, and girder cover and protection plates; bridge railings; tunnel drains, etc.

**VINYL SHEETING.** 4-page folder. Masland Duralather Company, Dept RA, Philadelphia 34, Pa.

Describes Masland Duran Clad, a new semi-rigid vinyl that can be laminated to sheet metal or continuous coils and then formed into product components. Includes samples in color.

**NAILE STEEL FLOORING.** 12-page booklet, illustrated. Transportation Product Sales Dept., Stran-Steel Corporation, Dept. RA, Detroit 29.

Describes uses and advantages of N-S-F steel flooring for freight cars and details line of accessories, which includes N-S-F for upper-decking in box cars, doorposts for protection of lading and securing of blocking, and grain strip. Engineering drawings show typical application details put into use on over 50,000 box and gondola cars by 62 railroads.

**A GUIDE TO BETTER CLOSURES.** Acme Steel Products Division, Acme Steel Company, Dept. RA, 135th and Perry, Chicago 27.

A handbook for shippers on the closure of fiberboard boxes.

**FIBERGLAS IS WORKING ON THE RAILROAD.** 54 pages, illustrations, drawings. Owens-Corning Fiberglas Corporation, Dept. RA, Toledo 1. Free.

Illustrates the broad range of Fiberglas products which have application in the railroad industry. These include thermal, acoustical and electrical insulations, fireproof fabrics, coated fabrics, and reinforcement for plastics . . . each with a variety of uses in the construction and maintenance of rolling stock, buildings, fixtures and furnishings.

### FILMS

**THE NATIONAL SAFE TRANSIT STORY.** 16 mm. sound, color, 17 mins. National Safe Transit Committee, Associations bldg., 1145 Nineteenth st., N.W., Washington 6, D.C. Available by purchase or loan.

The film shows the NST pre-shipment test procedures for packaged products and basic carloading which were developed by the committee to simulate actual transit conditions. The thousands of miles of experimental test runs and the research data gathered from hundreds of test shipments prior to final formulation of the NST test procedures are explained. Actual humping of railroad cars is illustrated together with the degrees of shock to which a loaded car might be subjected during normal transit conditions. The new film also stresses use of the Safe Transit label which is used by participants in the Program to identify their pre-shipment tested products.

The Committee also has an earlier film entitled, *The National Safe Transit Program*, which covers in detail Projects 1 and 1A—pre-shipment test procedures for packaged products from 100 lb to 1,000 lb and for packaged products under 100 lb. The new film treats these two projects in summary fashion only and presents in detail Project 1B—procedure for pre-shipment testing of basic carloading—which, when combined with Projects 1 and 1A, offers an additional means for still greater reductions in transit damage.

**JUNE DECISION.** 16-mm., 20-min., sound, color. Railway Progress Institute, 38 S. Dearborn st., Chicago 3. Available on loan, or for sale at \$156.75 including reel, can and shipping container.

Based on a script by Holcombe Parkes, president of the RPI, this film portrays the difficult decision of an engineering student who, though fascinated by railroading, hesitates to embark upon a railroad career because of questions about the future of the railroad industry. But when he happens to see a copy of the Institute's encouraging economic research report he becomes con-

vinced that America's railroads do have a dynamic future . . . and by taking a railroad job, so will he.

### BOOKS

**1956 LOCOMOTIVE CYCLOPEDIA OF AMERICAN PRACTICE,** edited by C. L. Combes. 728 pages, illustrations, drawings. Simmons-Boardman Publishing Corporation, 30 Church st., New York 7. \$12.

This standard reference work, now in its fifteenth edition, contains definitions, drawings and illustrations of diesel, electric and turbine locomotives for railroad, industrial and foreign service, and their parts and equipment. Editorial presentation of steam locomotives is limited mostly to historical and tabular data. Descriptions and illustrations of diesel locomotive shops and servicing facilities are included. The volume has a classified product index and a trade name index.

**THE ROLE OF AIR FREIGHT IN PHYSICAL DISTRIBUTION,** by Howard T. Lewis, James W. Culliton and Jack D. Steele. 180 pages. Division of Research, Graduate School of Business Administration, Harvard University, Boston. \$2.50.

The characteristics of air freight and its market are reviewed by Professor Lewis and Dean Culliton in Part 1 of this study. In Part 2, Mr. Steele applies the approach suggested in Part 1 to two specific situations.

**HENRY VARNUM POOR, BUSINESS EDITOR, ANALYST, AND REFORMER,** by Alfred D. Chandler, Jr. 362 pages. Harvard University Press, Cambridge 38, Mass. \$6.50.

Mr. Chandler, a great-grandson of Henry Varnum Poor, concentrates on the latter's work as editor of the *American Railroad Journal* (predecessor of our own *Railway Locomotives & Cars*), in the 12 years before the Civil War and as editor of the *Manual of the Railroads of the United States* in the postwar years. Unlike most early business journalists, Mr. Poor regarded his editorial task as a creative one. He used the data he compiled as a basis for analyzing business problems and suggesting changes and improvements. Because he wrote his analyses and proposed reforms during the earliest great expansion of the American railroad network, Mr. Poor was one of the very first Americans to examine the economic and business problems raised by the coming of America's initial big business. The heart of the book is devoted to Mr. Poor's editorial policies and programs, and, in consequence, covers the major problems of construction, finance, competition, and administration which the early railroad builders and operators had to face, and the answers they found. There is much new information on all aspects of the beginnings of large business units in the United States. The two final chapters are devoted to Mr. Poor's career after he left the *Journal* and became a leading authority on government, railroad finance, and editor of the *Manual of the Railroads of the United States*.

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## What Is Defense's Transport Policy?

Major General E. C. R. Lasher, head of military traffic management, made a speech at a dinner of the Federation for Railway Progress on March 28 (as noted elsewhere in these pages) in which he was quite critical of the railroads.

Many of his criticisms were of a familiar kind, frequently uttered by railroad men themselves. The railroads aren't sufficiently skillful at selling. The average turn-around time of freight cars has risen. The rate structure needs improving. Railroads don't adapt their services to customers' needs sufficiently to discourage them from providing their transportation in their own vehicles.

General Lasher has worked too closely and cooperatively with the railroads, has too many close personal friends among railroad people, to ascribe to him anything but the best of intentions in speaking as he did. Many of the railroad men in the audience accepted his strictures in good part with such expressions as: "Putting a burr under our tails won't hurt us any," or "He's our biggest customer—and what he says is important, whether we agree or not."

### **Well-Intentioned Criticism**

The Bible reminds us that "faithful are the wounds of a friend," and at least a large part of the general's criticisms will be accepted by most railroad men in that spirit. Their only reservation in this regard might be—If your best friend tells you that you have halitosis, you'd thank him but hope he'd whisper the information rather than make your affliction known in the presence of a lot of company.

**But General Lasher's critical observations went deeper than easily verifiable deficiencies in service—raising the important question as to just what the defense department's policy toward transportation may be.**

For one thing, the general was critical of the fact that railroad freight traffic—and equipment to handle it—seems to have hit a ceiling of about 650 billion ton-miles. He indicated, by implication at least, that the railroads would be handling more traffic than this, right now, if they had the equipment. So, seeing that they're hard pressed to take care of existing business, the general asked, how can they expect to be prepared for a "large scale war [which] . . . will make our ton-nages of World War II seem small in comparison?"

It is this paper's information that a couple of chief executives of large railroads recently called upon a defense department official at a considerably higher level than that of General Lasher. They drew this official's attention to railroad service difficulties, arising from inadequate equipment—which, in turn, has re-

### **THIS RELATES TO:**



- 1—Challenging competition
- 2—Holding to high service standards
- 3—Increasing internal strength
- 4—Getting a higher level of earnings
- 5—Improving tools and methods
- 6—Seeking a friendlier environment

sulted from a shortage of investment funds, occasioned by poor earnings.

This high-placed defense official reassured these railroad men that restricted railroad capacity didn't bother him a bit—because the railroads, in the next war, wouldn't be called on to handle any more traffic than they're handling now. And, even if there should be a shortage of railroad capacity, that wouldn't worry him much either, because he could handle the traffic in trucks.

So here we have General Lasher, who knows a lot about transportation—and especially about the need for railroads and what their maximum capacity is. General Lasher is worried. He wants the railroads to get a lot more equipment and expand their capacity all the way down the line. But a defense official who "ranks" the general has precisely the opposite view of the military's needs for railroad service.

### **Damned If You Do or Don't**

This confusion in attitude puts the railroads in the unenviable position of the schoolboy whose mother slaps him for hurrying through his breakfast too fast, and whose teacher punishes him if he is late to school.

It is quite likely that General Lasher knows a lot more about transportation—and the kind of railroad plant needed for military safety—than any of his superiors in the defense department do. He would do well to devote some of his forensic talents to their education.

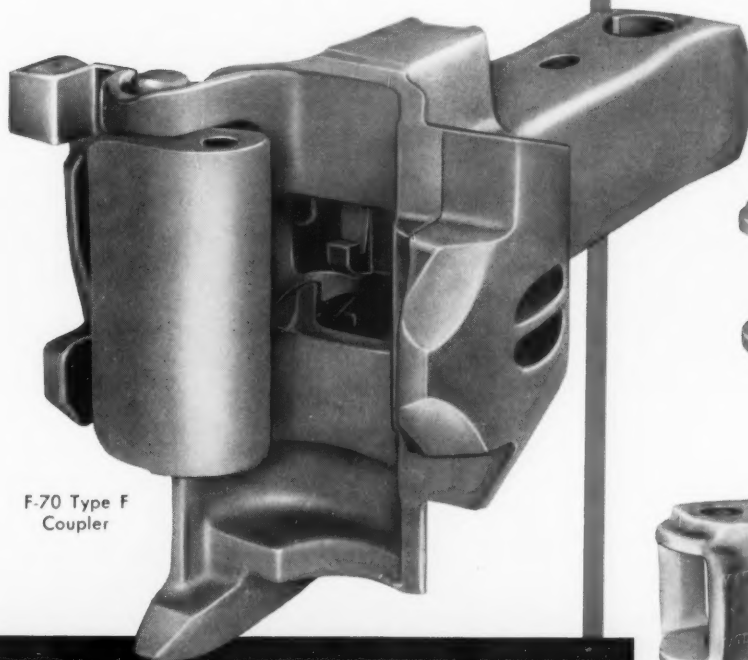
It isn't going to do any good for General Lasher to tell the railroads to raise their sights as to future traffic growth, when officials at a higher level—who quite evidently don't agree with him—are acquiescing in or favoring government policies which keep the railroads on short rations. Railroad people have the right and duty to call loudly for a definition of government policy on this question.



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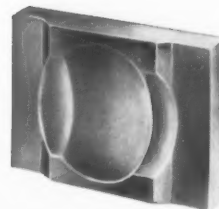


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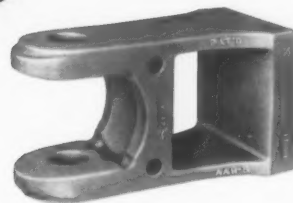
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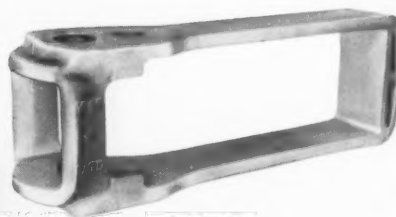
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